



**UNITED
TECHNOLOGIES
PRATT & WHITNEY
AIRCRAFT GROUP**

400 Main Street
East Hartford, Connecticut 06108

November 30, 1983

Environmental Protection Agency
Region 1
RCRA Permits
P. O. Box 8748
Boston, Massachusetts 02114

NAME: Pratt + Whitney
I.D. NO.: CTD 990672081
FILE LOC: R-113
OTHER: RMS # 2460

Department of Environmental Protection
Hazardous Materials Management Unit
Room 9
122 Washington Street
Hartford, Connecticut 06106
Attention: Mr. George Dews

Re: Revision to Part B Application
Facility CTD 990672081

Dear Sirs:

In response to the request of Stephen W. Hitchcock as contained in his letter dated August 22, 1983, enclosed please find the added information which constitutes the subject revision. We request that each enclosed page be inserted in the Part B Application submitted on April 20, 1983. Also enclosed is a revision to the Part A Application.

As I reported to George Dews by telephone today, we have not received from the laboratory the chemical analyses for incinerator wastes. We appreciate his acknowledging a further 20-day extension for the transmittal of those analyses. As soon as that data is received, it will be forwarded to the Department for inclusion in the Part B Application.

Thank you for your courtesy and cooperation.

Very truly yours,

Robert J. Wise
Assistant Counsel

RJW:cg
Enclosure



UNITED
TECHNOLOGIES
PRATT & WHITNEY
AIRCRAFT

400 Main Street
East Hartford, Connecticut 06108

Manufacturing Division

RECEIVED
HAZARDOUS WASTE SECTION

NOV 1 1984

RECEIVED November 1, 1984

Mr. George Dews
Senior Sanitary Engineer
Hazardous Waste Section
Department of Environmental Protection
165 Capitol Avenue
Hartford, Connecticut 06106

NAME: Pratt & Whitney
I.D. NO.: CTD990672081
FILE LOC: R-1B
OTHER: _____

Re: Pratt & Whitney Part B Application CTD 990672081
Response to NOD

Dear Mr. Dews:

Thank you for approving our extension request. As required by Condition 1 of your approval letter, enclosed is our unexecuted preliminary material gathered in response to the Notice of Deficiency without the incinerator sections. The complete executed application will be submitted on or before March 1, 1985.

Page 11C of these revisions is being submitted as confidential business information under 40 CFR 270.12, and we trust this information will be treated as confidential business information.

Thank you for your courtesy and cooperation.

Very truly yours,

Robert J. Wise
Vice President - Counsel

RJW:KPV:jf
Enc.

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NOV 1 1984

HAZARDOUS WASTE SECTION
DEPT. OF ENVIRONMENTAL PROTECTION



**UNITED
TECHNOLOGIES
PRATT & WHITNEY
AIRCRAFT**

400 Main Street
East Hartford, Connecticut 06108

Manufacturing Division

April 20, 1983

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Environmental Protection Agency
Region I
RCRA Permits
P. O. Box 8748
Boston, Massachusetts 02114

RECEIVED CPPU
APR 27 1983

Department of Environmental Protection
Hazardous Waste Management Section
State Office Building
165 Capitol Avenue
Hartford, Connecticut 06106
Attention: Permits

Re: Part B Application -
Facility CTD 990672081

Dear Sirs:

Enclosed please find the Part B Application for Pratt & Whitney Aircraft Group's East Hartford, Connecticut facility.

If there are any questions, please do not hesitate to contact me or Art Caldwell at (203) 565-2016.

Thank you for your courtesy and cooperation.

Very truly yours,

Robert J. Wise
Assistant Counsel

RJW:ap
Enc.



**UNITED
TECHNOLOGIES
PRATT & WHITNEY
AIRCRAFT GROUP**

400 Main Street
East Hartford, Connecticut 06108

December 19, 1983

Environmental Protection Agency
Region 1
RCRA Permits
P. O. Box 8748
Boston, Massachusetts 02114

Department of Environmental Protection
Hazardous Materials Management Unit
Room 9
122 Washington Street
Hartford, Connecticut 06106
Attention: Mr. George Dews

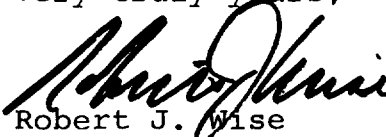
Re: Revision to Part B Application
Facility CTD 990672081

Dear Sirs:

On November 30, 1983, we submitted a revision to our Part B Application. The revision was in answer to an August 22, 1983 request for additional information from Stephen W. Hitchcock. As of November 30, 1983, we had not received from the laboratory chemical analyses for incinerator wastes and as a result had been granted a further 20-day extension for transmittal of the analyses. Enclosed please find the results of the laboratory chemical analyses for inclusion in the Part B Application.

Thank you for your courtesy and cooperation.

Very truly yours,


Robert J. Wise
Assistant Counsel

RJW:cg
Enclosure

RCRA PART B APPLICATION
UNITED TECHNOLOGIES
PRATT & WHITNEY AIRCRAFT
400 MAIN STREET
EAST HARTFORD, CONNECTICUT 06108

EPA I.D. # CTD990672081

APRIL 20, 1983

REVISED: NOVEMBER 30, 1983

Submitted To:

EPA Region I
Boston, MA

Connecticut Department
of Environmental Protection
Hartford, CT

RCRA PART B APPLICATION
UNITED TECHNOLOGIES
PRATT & WHITNEY AIRCRAFT
400 MAIN STREET
EAST HARTFORD, CONNECTICUT 06108

EPA I.D. # CTD990672081

APRIL 20, 1983

Submitted to:

EPA Region I
Boston, MA

Connecticut Department
of Environmental Protection
Hartford, CT

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SECTION - A - GENERAL FACILITY DESCRIPTION

Pratt & Whitney Aircraft (PWA) is the major Group in the Power Sector of United Technologies Corporation. PWA has a large complex in East Hartford, Connecticut, which includes three sites as defined by the Resource Conservation and Recovery Act (RCRA) regulations. The mailing address for the complex is:

Pratt & Whitney Aircraft
400 Main Street
East Hartford, Connecticut 06108

The facility locations for the three RCRA sites are as follows:

<u>Street Address</u>	<u>EPA ID #</u>
400 Main Street	CTD 990672081
Colt Street	CTD 000844399
Pent Road	CTD 000845131

The Main Street site designs, manufactures, assembles, and tests aircraft jet engines and engine components. The Pent Road site develops and tests aircraft jet engines and engine components. The Colt Street site is used exclusively as a dilute industrial wastewater treatment facility and is permitted under the National Pollutant Discharge Elimination System (NPDES). This Part B application concerns only the Main Street Site.

General Facility Description (Cont'd)

The manufacturing and developing of jet engines is a high technology industry often using "state of the art" materials and processes. Hazardous wastes are generated at this site by fabricating, cleaning, finishing, coating, testing and research operations.

The hazardous wastes generated at this site are typically water solutions, both concentrated and dilute, containing acids, alkalies, and heavy metals. There are also spent solvents and associated still bottoms generated from production operations and reclamation operations.

Hazardous wastes are also received at the East Hartford complex from other Pratt & Whitney Aircraft sites. These wastes are also concentrated waste water solutions and spent solvents. All the wastes received at East Hartford are similar or identical to those generated at East Hartford. These off site wastes are often combined with similar on-site wastes for storage.

Hazardous waste activities at this site are reclamation, transportation, storage and treatment. Recycling is the distillation of spent listed solvents which are primarily generated on-site. PWA has a Hazardous Waste Management Permit (CT-HW-264) issued by the Connecticut Department of Environmental Protection for transportation of hazardous waste. PWA transportation of hazardous wastes occurs only between PWA facilities although licensed waste haulers may also be used. Storage occurs for both on-site and off-site material while awaiting treatment or shipment to licensed waste disposal facilities. Treatment can be separated into two main categories. They are waste water solutions processed in our NPDES facility and those which are incinerated.

PRELIMINARY

General Facility Description (Cont'd)

This application is being prepared for submission to both the U.S. Environmental Protection Agency (EPA) and the Connecticut Department of Environmental Protection (DEP). Currently the DEP has been delegated Phase II authority and expects to receive final authorization during 1985. Although both EPA and DEP regulations are substantially equal there are a few differences in the scope of activities covered in the permitting program. The EPA excludes elementary neutralization wastewater treatment units under 40 CFR 264.1(g)(6) and 40 CFR 122.21 (d)(2)(vi) for all treatment and most storage tanks at this site. The DEP however requires that all storage tanks which receive off site wastes be included in the application. See Table A-1 for a list of storage tanks at this site and the applicable regulatory program(s). Also included in this application are a liquid injection incinerator, a storage building and a transporter storage pad.

P&W filed a "Notification of Hazardous Waste Activity", dated August 13, 1980 and a "RCRA Part A Application" dated November 18, 1980. The Part A application was later amended by a submittal, dated November 19, 1981, to include a rotary kiln incinerator with the required justification. The rotary kiln incinerator is no longer scheduled to burn any hazardous waste and has not been included in this application.

The Part A has again been revised to remove the excluded treatment tanks and the rotary kiln incinerator for the reasons discussed in the preceding paragraphs and is in Appendix I.

The solvent reclamation operation at this site includes the distillation of tetrachloroethylene and 1,1,1-trichloroethane. These spent solvents are generated primarily from degreasing operations on site.

RECEIVED

HAZARDOUS WASTE
MANAGEMENT UNIT

General Facility Description (Cont'd)

This application is being prepared for submission to both the U.S. Environmental Protection Agency (EPA) and the Connecticut Department of Environmental Protection (DEP). Currently the DEP has been delegated Phase I authority and expects to receive Phase II authority during 1983. Although both EPA and DEP regulations are substantially equal there are a few differences in the scope of activities covered in the permitting program. The EPA excludes elementary neutralization or wastewater treatment units under 40 CFR 264.1(g)(6) and 40 CFR 122.21 (d)(2)(vi) for all treatment and most storage tanks at this site. The DEP however requires that all storage tanks which receive off site wastes be included in the application. See Table A-1 for a list of storage tanks at this site and the applicable regulatory program(s). Also included in this application are a liquid injection incinerator, a rotary kiln incinerator, a storage building and a transporter storage pad.

PWA filed a "Notification of Hazardous Waste Activity", dated August 13, 1980 and a "RCRA Part A Application" dated November 18, 1980. The Part A application was later amended by a submittal, dated November 19, 1981, to include a rotary kiln incinerator with the required justification. The rotary kiln incinerator is no longer scheduled to burn any hazardous waste and has not been included in this application.

The Part A has again been revised to remove the excluded treatment tanks and the rotary kiln incinerator for the reasons discussed in the preceding paragraphs and is in Appendix I.

The solvent reclamation operation at this site includes the distillation of tetrachloroethylene and 1,1,1-trichloroethane. These spent solvents are generated primarily from degreasing operations on site.

HAZARDOUS WASTE STORAGE TANKS

<u>Tank Identification</u>	<u>No. Of Tanks</u>	<u>Capacity (gallons) (each)</u>	<u>EPA H. W. Nos.</u>	<u>Excluded by EPA</u>
Waste Cyanide Solution	1	2,800	F007, F008, F009	No
	1	4,000	F007, F008 F009	No
Waste Alkali Solution	1	4,000	D002	Yes
Waste Chromium Solution	1	4,000	D002 D007	Yes
Waste Acid Solution	1	2,000	D002	Yes
	1	4,000	D002	Yes
Waste Solvent	1	4,000	F001, F002	No
Wax/Solvent	1	2,500	F001, F002	No

Table A-1

General Facility Description (Cont'd)

Approximately 10% of the solvent reclaimed at the East Hartford complex comes from off site PWA Facilities in Rocky Hill and Southington, Connecticut. The distillation process reclaimed approximately 110,000 gallons of solvent during 1982.

On-site solvents for reclaim are collected in containers at the generating locations based on a preventive maintenance schedule and transported to the reclaim area. There the solvents are transported into one of two still feed tanks depending on solvent type. The perchloroethylene feed tank holds 800 gallons and the 1,1,1 trichloroethane feed tank holds 800 gallons. The solvents are distilled with the clean solvent going to receiving tanks which are piped to bulk storage tanks. The still bottoms are sent to the waste treatment area for storage and incineration. On occasion the portable containers used to transport the waste solvents are connected directly to a distillation unit. In addition a third distillation unit has been ordered and is scheduled for delivery during April 1983. This unit will reclaim additional solvent from the still bottoms generated by the other two units.

Off-site waste is received in containers and brought to the reclaim area where they are either transferred into one of the feed tanks or piped directly to one of the distillation units. If the off-site waste cannot be immediately processed it is transported to the hazardous waste storage area. The waste is returned to the reclaim area for distillation as soon as practical but usually within one week.

The solvent reclaim area is located inside the factory building on a wood block floor underlain by concrete. Any spills occurring in this area would be contained.

General Facility Description (Cont'd)

There is no storage of hazardous wastes occurring in the reclaim area since the feed tanks are part of the reclamation systems. Therefore, none of the activities in the reclaim area come under the scope of this permit application.

SECTION - B - WASTE DESCRIPTIONS AND ANALYSES

I The Hazardous Waste Streams handled at the Pratt & Whitney Facility are identified through one or more of several methods:

A) Process information - PWA Process Solution (PS) information is published and describes the material used in making the solutions used in the factory. This make-up material is further identified by Process Material Control (PMC) or Pratt & Whitney Aircraft (PWA) numbers, which identify individual components of the approximately 400 solutions, descriptions and supporting material specifications of which are contained in volumes of literature located near the treatment areas. The Process Solutions used at PWA are made up to exacting specifications from virgin material (acids, alkalies, chromium compounds, cyanides, etc.) and are analyzed constantly while in use by a PWA Material Control Laboratory (MCL).

Solutions are discarded for various reasons. Acid solutions may be discarded if they become too dilute and parts of solutions are discarded if they are too strong. Most other solutions are discarded when it is decided by the operating departments that the solutions can no longer adequately perform their designed function. Alkali cleaning solutions must be discarded when they contain too much oil and grease. Cyanide solutions are discarded when they are contaminated with oil and grease along with metals. Chromium solutions are usually discarded because of aluminum contamination. In all cases, the original constituents

SECTION - B - WASTE DESCRIPTIONS AND ANALYSES

I The Hazardous Waste Streams handled at the Pratt & Whitney Facility are identified through one or more of several methods:

- A) Process information - PWA Process Solution (PS) information is published and describes the material used in making the solutions used in the factory. This make-up material is further identified by Process Material Control (PMC) or Pratt & Whitney Aircraft (PWA) numbers, which identify individual components of the solutions, descriptions of which are contained in volumes of literature located near the treatment areas. The Process Solutions used at PWA are made up to exacting specifications from virgin material (acids, alkalies, chromium compounds, cyanides, etc.) and are analyzed constantly while in use by a PWA Material Control Laboratory (MCL). When the MCL determines that the solutions no longer meet operating specifications, the spent solution is discarded and replaced. The discarded solution has the same characteristics of the original solution, but with decreased strength, and in the case of chemical milling or stripping solutions, there is metal contamination from the part being worked. Each different solution is numbered and the compositions of these solutions do not change.
- B) Manufacturer's information - Data obtained from material manufacturers includes material specifications, material

RCRA Part B Permit Application
United Technologies
Pratt & Whitney Aircraft
CTD 990672081

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New: 11/30/83

of the solutions and not the contamination cause the solutions to become hazardous waste. The discarded solution has the same characteristics of the original solution, but with decreased strength, and in the case of chemical milling or stripping solutions, there is metal contamination from the part being worked. Each different solution is numbered and the compositions of these solutions do not change.

- B) Manufacturer's information - Data obtained from material manufacturers includes material specifications, material safety data sheets, and if necessary, specific written information direct from the manufacturer.
- C) Laboratory Analysis - Required laboratory analysis is performed by an independent licensed laboratory, or by one of two PWA laboratories, the Material Control Lab (MCL) or the Material Engineering Research Lab (MERL). The MCL routinely analyzes new material being introduced into the plant and material being used in the production process.

II Waste Delivery

- A) When a waste is generated in a department of PWA, the department supervisor (usually a foreman) completes a PWA Internal Waste Manifest card (Exhibit E), providing generator and department information, identification of the waste material and packaging information. The generator then calls the Plant Engineering Maintenance Department Concentrated Waste Treatment Plant (CWTP) requesting that the waste be picked up.
- B) The Plant Engineering Maintenance Department CWTP operators are dispatched to the generating department to pick up the waste. They inspect the waste, review the internal waste manifest and sign it, thereby accepting the waste.

safety data sheets, and if necessary, specific written information direct from the manufacturer.

- C) Laboratory Analysis - Required laboratory analysis is performed by an independent licensed laboratory, or by one of two PWA laboratories, the Material Control Lab (MCL) or the Material Engineering Research Lab (MERL). The MCL routinely analyzes new material being introduced into the plant and material being used in the production process.

II Waste Delivery

- A) When a waste is generated in a department of PWA, the department supervisor (usually a foreman) completes a PWA Internal Waste Manifest card (Exhibit E), providing generator and department information, identification of the waste material and packaging information. The generator then calls the Plant Engineering Maintenance Department Concentrated Waste Treatment Plant (CWTP) requesting that the waste be picked up.
- B) The Plant Engineering Maintenance Department CWTP operators are dispatched to the generating department to pick up the waste. They inspect the waste, review the internal waste manifest and sign it, thereby accepting the waste. If a CWTP operator believes the waste does not meet the description on the Internal Waste Manifest, he can refuse the waste and insist that the generator provide further analysis, or he can accept the waste and request that it be analyzed by the Maintenance Department as described in the Waste Analysis Plan, Section C. Every container of waste received by the Maintenance Department is opened and inspected by a CWTP operator who then signifies acceptance of the waste by signing the appropriate

PRELIMINARY

If a CWTP operator believes the waste does not meet the description on the Internal Waste Manifest, he can refuse the waste and insist that the generator provide further analysis, or he can accept the waste and request that it be analyzed by the Maintenance Department as described in the Waste Analysis Plan, Section C. Every container of waste received by the Maintenance Department is opened and inspected by a CWTP operator who then signifies acceptance of the waste by signing the appropriate section of the waste manifest. Once a waste has been accepted it is put into the appropriate storage location, and its data is entered into the permanent computer record keeping system.

- C) Waste is also received at the CWTP from branch plants. Before a waste is shipped from a branch plant, a responsible member of the branch's Plant Engineering Department will call the CWTP Industrial Waste Analyst and describe the material. If the description provides adequate information the branch will be given permission to ship the waste, otherwise additional information or analysis will be requested. When it arrives at East Hartford, the waste will be inspected to see that it meets the description provided on the P&W Internal Waste Manifest and the Hazardous Waste Manifest (if required). At this point the operator will accept the waste and place it in storage, but he may request additional information about the waste from the branch plant before the waste is disposed.

III Waste Descriptions

- A) Table B-1 provides one example for each general waste type, stating the solutions original composition as found in the Process Solutions manual. As previously mentioned, the composition of a waste

If a CWTP operator believes the waste does not meet the description on the Internal Waste Manifest, he can refuse the waste and insist that the generator provide further analysis, or he can accept the waste and request that it be analyzed by the Maintenance Department as described in the Waste Analysis Plan, Section C. Every container of waste received by the Maintenance Department is opened and inspected by a CWTP operator who then signifies acceptance of the waste by signing the appropriate section of the waste manifest. Once a waste has been accepted it is put into the appropriate storage location, and its data is entered into the permanent computer record keeping system.

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III Waste Descriptions

A) Acids

- 1) PWA uses several acids in its production processes. The resulting acid wastes are spent acid/water solutions of varying concentrations. Acid wastes are treated by neutralization, after which the neutralized solution flows to a final treatment plant for metal removal.

section of the waste manifest. Once a waste has been accepted it is put into the appropriate storage location, and its data is entered into the permanent computer record keeping system.

- C) Waste is also received at the CWTP from branch plants. Before a waste is shipped from a branch plant, a responsible member of the branch's Plant Engineering Department will call the CWTP Industrial Waste Analyst and describe the material. If the description provides adequate information the branch will be given permission to ship the waste, otherwise additional information or analysis will be requested. When it arrives at East Hartford, the waste will be inspected to see that it meets the description provided on the PWA Internal Waste Manifest and the Hazardous Waste Manifest (if required). At this point the operator will accept the waste and place it in storage, but he may request additional information about the waste from the branch plant before the waste is disposed.

III Waste Descriptions

A) Acids

- 1) PWA uses several acids in its production processes. The resulting acid wastes are spent acid/water solutions of varying concentrations. Acid wastes are treated by neutralization, after which the neutralized solution flows to a final treatment plant for metal removal.

2) Types of Acids

- a) Hydrochloric
- b) Nitric

PRELIMINARY

solution will be essentially the same as the original Process Solution. Information such as this is available for each of the hazardous wastes mentioned below. Annual volumes for each waste are available in the 1983 Facility Biennial Hazardous Waste Report presented in Appendix III.

B) Acids

- 1) P&W uses several acids in its production processes. The resulting acid wastes are spent acid/water solutions of varying concentrations. Acid wastes are treated by neutralization, after which the neutralized solution flows to a final treatment plant for metal removal.

RCRA Part B Permit Application
United Technologies
Pratt & Whitney
CTD 990672081

CONFIDENTIAL BUSINESS INFORMATION
PRELIMINARY

Page 11C of 162
Revised: 11/1/84

TABLE B-1
PROCESS SOLUTION EXAMPLES

SEE CONFIDENTIAL FILE
ON 21ST FLOOR

Att 12/10/84

(Contains components of 9
process solution examples)

CONFIDENTIAL BUSINESS INFORMATION

2) Types of Acids

- a) Hydrochloric
- b) Nitric
- c) Sulfuric
- d) Hydrofluoric
- e) Phosphoric
- f) Chromic

3) Physical State

- a) Liquid solutions of acids and water.
- b) Solid sludges resulting from accumulation of solids at the bottom of acid tanks.

4) EPA Hazardous Waste Identification

- a) D002 - Corrosivity
- b) D007 - EP Toxic, Chromium, for item 2f above.

B) Alkalies

- 1) PWA uses several alkalies in its production process. The resulting alkali wastes are spent alkali/water solutions of varying concentrations. Alkali wastes are treated by neutralization, after which the neutralized solution flows to a final treatment plant for metal removal.

2) Types of Alkalies

- a) Sodium Carbonate, Sodium Bicarbonate
- b) Sodium Hydroxide
- c) Potassium Hydroxide
- d) Potassium Carbonate
- e) Potassium and Sodium Nitrate
- f) Trisodium Phosphate

- c) Sulfuric
- d) Hydrofluoric
- e) Phosphoric
- f) Chromic

3) Physical State

- a) Liquid solutions of acids and water.
- b) Solid sludges resulting from accumulation of solids at the bottom of acid tanks.

4) EPA Hazardous Waste Identification

- a) D002 - Corrosivity
- b) D007 - EP Toxic, Chromium, for item 2f above.

B) Alkalies

- 1) PWA uses several alkalies in its production process. The resulting alkali wastes are spent alkali/water solutions of varying concentrations. Alkali wastes are treated by neutralization, after which the neutralized solution flows to a final treatment plant for metal removal.

2) Types of Alkalies

- a) Sodium Carbonate, Sodium Bicarbonate
- b) Sodium Hydroxide
- c) Potassium Hydroxide
- d) Potassium Carbonate
- e) Potassium and Sodium Nitrate
- f) Trisodium Phosphate

3) Physical State

- a) Liquid solutions of alkali and water
- b) Solid alkali salts
- c) Solid sludges resulting from accumulation of solids at the bottom of alkali tanks.

4) EPA Hazardous Waste Identification

- a) D002 - Corrosivity

C) Chromium

- 1) PWA uses several chromium compounds in the production process. The resulting chromium wastes are spent chromium/water solutions of varying concentrations. Chromium wastes are treated by chemical reduction, after which the treated solution flows to a final treatment plant for metal removal.

2) Types of Chromium Compounds

- a) Chromic Acid
- b) Sodium Dichromate, Potassium Dichromate

3) Physical State

- a) Liquid solutions of chromium compounds and water
- b) Solid chromium salts
- c) Solid sludges resulting from accumulation of solids at the bottom of chromium tanks.

4) EPA Hazardous Waste Identification

- a) D002 - Corrosivity
- b) D007 - EP Toxicity - Chromium

D) Cyanide

- 1) PWA uses cyanide compounds in the production process. The resulting cyanide wastes are spent cyanide/water solutions of varying concentrations. Cyanide waste solutions are shipped to a commercial waste treatment facility for alkaline oxidation of the cyanide. Cyanide waste sludges are treated by alkaline chlorination on site, after which the treated solution flows to a final treatment plant for metal removal. Precious metal cyanide compounds are sent to an off-site vendor for metal reclamation.
- 2) Types of Cyanide Compounds
 - a) Sodium Cyanide
 - b) Potassium Cyanide
 - c) Copper Cyanide
 - d) Gold and Silver Cyanide
 - e) Potassium Silver Cyanide, Potassium Gold Cyanide
- 3) Physical State
 - a) Liquid solutions of cyanide compounds in water
 - b) Solid sludges resulting from accumulation of solids at the bottom of cyanide tanks.
- 4) EPA Hazardous Waste Identification
 - a) F007 - Spent cyanide plating bath solutions from electroplating operations.
 - b) F008 - Plating bath sludges from the bottom of plating baths from electroplating operations where cyanides are used in the process.
 - c) F009 - Spent stripping and cleaning bath solutions from electroplating operations where cyanides are used in the process.

- d) PXXX - In addition, all of the above cyanides could be received as off-spec material and would carry the appropriate EPA number.

E) Wax/Solvents, Oil/Solvents

- 1) PWA uses solvents in degreasing operations, generating a waste wax/solvent or oil/solvent mixture. Most solvents are reclaimed by distillation, and the still bottoms after distillation and degreaser tank sludges are disposed of by incineration.

2) Types of Solvents

- a) 1,1,1-Trichloroethane
- b) Tetrachloroethylene
- c) Trichlorotrifluoroethane

3) Physical State

- a) Degreaser still bottoms and degreaser tank sludges are liquid to semi-solid, depending on the percentage of wax present.

4) EPA Hazardous Waste Identification

- a) F001 - Spent halogenated solvents used in degreasing: 1,1,1-trichloroethane, tetrachloroethylene, and trichlorotrifluoroethane; and sludges from the recovery of these solvents in degreasing operations.

F) Solvents

- 1) PWA uses solvents in degreasing, cleaning, and laboratory operations, generating spent solvent wastes which are disposed of by incineration.

2) Types of Solvents

- | | |
|-----------------------------|---------------------------|
| a) Alcohols | k) Methyl Ethyl Ketone |
| b) Acetone | l) Methyl Isobutyl Ketone |
| c) Tetrachloroethylene | m) Xylene |
| d) 1,1,1-Trichloroethane | n) V.M.P. Naphtha |
| e) Trichloroethylene | o) Stoddard Solvent |
| f) Trichlorotrifluoroethane | p) Turpentine |
| g) Chloroform | q) Mineral Spirits |
| h) Toluene | r) Methylene Chloride |
| i) Carbon Tetrachloride | s) Ethylene Glycol |
| j) Cyclohexane | t) Ethyl Ether |

3) Physical State

- a) Solvent wastes are in liquid form.

4) EPA Hazardous Waste Identification

- a) D001 - Characteristic of Ignitability
- b) F001 - Spent halogenated solvents used in degreasing: tetrachloroethylene, trichloroethylene, methylene chloride, 1,1,1-trichloroethane, carbon tetrachloride, and chlorinated fluorocarbons; and sludges from the recovery of these solvents in degreasing operations.
- c) F002 - Spent halogenated solvents: 1,1,1-trichloroethane, tetrachloroethylene, trichloroethylene, and trichlorotrifluoroethane; and the still bottoms from the recovery of these solvents.
- d) F003 - Spent non-halogenated solvents: xylene, acetone, methyl isobutyl ketone, butyl alcohol, methanol; and the still bottoms from the recovery of these solvents.
- e) F004 - Spent non-halogenated solvents: cresols and cresylic acid, and nitrobenzene; and the still bottoms from the recovery of these solvents.

f) F005 - Spent non-halogenated solvents: toluene, methylethyl ketone, carbon disulfide, isobutanol, and pyridine: and the still bottoms from the recovery of these solvents.

g) UXXX - In addition, all of the above solvents could be received as off-spec material and would carry the appropriate EPA number.

G) Paints and Paint Wastes

1) PWA uses paints and associated paint solvents in industrial and facility painting operations. Waste paints and paint solvents are disposed of by incineration.

2) Types of Paints and Solvents

- a) Metal, Latex, and Oil Base Paints
- b) Turpentine
- c) V.M.P. Naphtha
- d) Stoddard Solvent
- e) Mineral Spirits
- f) Petroleum Solvent
- g) Lacquer Thinner

3) Physical State

- a) Liquid paint solvents contaminated with paint.
- b) Solid and semi-solid paint sludges containing paint solvent.

4) EPA Hazardous Waste Identification

- a) D001 - Characteristic of Ignitability

H) Sludges

1) PWA produces two hazardous waste sludges, one from a shaft boring operation and one from a metal coating operation. Both sludges are disposed of by secure chemical landfill.

- 2) Types of Sludges
 - a) Sulfur, often containing soluble cutting oil.
 - b) Aluminum Oxide Powder, containing Ammonium Chloride.
- 3) Physical State
 - a) Solid
- 4) EPA Hazardous Waste Identification
 - a) D003 - Characteristic of Reactivity
- I) Laboratory Chemicals and Commercial Chemical Products
 - 1) PWA has three major laboratory facilities which produce waste laboratory chemicals, and PWA purchases many commercial chemical products for use in its plants. These items become waste products through obsolescence or expired shelf life, and are disposed of by secure chemical landfill.
 - 2) Type of Waste
 - a) Small quantities of laboratory chemicals including acids, alkalies, salts, solvents, organics, inorganics, etc.
 - b) Small quantities of commercial chemical products including resins, epoxies, chemical coatings, cleaners, lubricants, absorbents, polymers, etc.
 - 3) Physical State
 - a) Solid
 - b) Liquid
 - c) Gaseous
 - d) Semi-solid
 - e) Paste

- 4) EPA Hazardous Waste Identification
- a) D001 - Characteristic of Ignitability
 - b) D002 - Characteristic of Corrosivity
 - c) D003 - Characteristic of Reactivity
 - d) D004 - EP Toxicity - Arsenic
 - e) D005 - EP Toxicity - Barium
 - f) D006 - EP Toxicity - Cadmium
 - g) D007 - EP Toxicity - Chromium
 - h) D008 - EP Toxicity - Lead
 - i) D009 - EP Toxicity - Mercury
 - j) D010 - EP Toxicity - Selenium
 - k) D011 - EP Toxicity - Silver
 - l) P001 D-Con Wasp/Hornet Killer
 - m) P002 Carbon Disulfide
 - n) P029 Copper Cyanide
 - o) P030 Cyanides
 - p) P098 Potassium Cyanide
 - q) P099 Potassium Silver Cyanide
 - r) P106 Sodium Cyanide
 - s) P122 Zinc Phosphide
 - t) U002 Acetone
 - u) U019 Benzene
 - v) U021 Benzidine
 - w) U031 N-Butyl Alcohol
 - x) U044 Chloroform
 - y) U052 Cresols
 - z) U054 Cresylic Acid
 - aa) U055 Cumene
 - bb) U056 Cyclohexane

EPA Hazardous Waste Identification (cont'd)

cc) U077	1,2 Dichloroethane
dd) U080	Dichloromethane
ee) U108	1,4 Dioxane
ff) U112	Ethyl Acetate
gg) U122	Formaldehyde
hh) U123	Formic Acid
ii) U133	Hydrazine
jj) U134	Hydrofluoric Acid
kk) U138	Iodomethane
ll) U140	Isobutyl Alcohol
mm) U144	Lead Acetate
nn) U151	Mercury
oo) U154	Methanol
pp) U159	Methyl Ethyl Ketone
qq) U161	Methyl Isobutyl Ketone
rr) U165	Naphthalene
ss) U168	2-Naphthylamine
tt) U242	Pentachlorophenol
uu) U188	Phenols
vv) U201	Resorcinol
ww) U210	Tetrachloroethylene
xx) U220	Toluene
yy) U223	Toluene Diisocyanate
zz) U226	1,1,1-Trichloroethane
aaa) U228	Trichloroethylene
bbb) U121	Trichlorofluoromethane
ccc) U239	Xylene

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The test methods used to analyze for the parameters listed in tables C-1 and C-2 will be those described in:

Test Methods for Evaluation of Solid Waste, Physical/Chemical Methods

EPA Publication SW-846

Office of Solid Waste

Washington, D.C. 20460

July 1982

and as time to time revised in this volume.

The test methods to be used to analyze for the parameters listed are those described in the following sources:

TABLE B-1

- 1) Methods for Analysis of Water and Wastes
Environmental Monitoring and Support Laboratory, Office of
Research and Development.
U.S. Environmental Protection Agency - Cincinnati, Ohio
45268
(EPA-600/4-79-20, March 1979)
- 2) Methods for Benzidine, Chlorinated Organic Compounds,
Pentachlorophenol and Pesticides in Water and Wastewater
Sept. 1978
U.S. Environmental Protection Agency
Environmental Monitoring and Support Laboratory
Cincinnati, Ohio 45268
- 3) Test Methods for the Evaluation of Solid Waste, Physical/Chemical
Methods
U.S. Environmental Protection Agency
Office of Solid Waste
Washington, D.C. 20460
- 4) Standard Methods for the Examination of Water and Wastewater
American Public Health Association, American Water Works Association,
Water Pollution Control Federation
Washington, D.C. 20005

Sample methods shall be as defined in EPA publication SW-846, Test Methods for Evaluating Solid Waste, or as otherwise defined below. The appropriate sampling method in Table B-2 which best fits the general waste description will be used.

TABLE B-2

WASTE	METHOD
Containerized liquids	Coliwas
Extremely viscous liquids	ASTM Standard D140-70
Crushed or powdered material	ASTM Standard D346-75
Soil or rock-like material	ASTM Standard D1452-65
Fly Ash-like material	ASTM Standard D2234-76

The sampling methods to be used to obtain a representative sample of the waste will be those listed in the following sources:

TABLE B-2

Extremely viscous liquid - ASTM Standard D140-70

Crushed or powdered material - ASTM Standard D346-75

Soil or rock-like material - ASTM Standard D-420-69

Soil-like material - ASTM Standard D1452-65

Fly Ash-like material - ASTM Standard D2234-76

Containerized liquid wastes - "COLIWASA" described in "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods." U.S. Environmental Protection Agency, Office of Solid Waste, Washington, D.C. 20460.

Liquid waste in pits, ponds, lagoons and similar reservoirs - "Pond Sampler" described in "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods."

TABLE C-1

PARAMETERS FOR ANALYSIS

<u>CATEGORY</u>	<u>HAZARDOUS WASTE NUMBER</u>	<u>PARAMETERS</u>	<u>POSSIBLE ADDITIONAL PARAMETERS</u>
Acid	D002	pH	Metals Acid type Acid strength
Alkali	D002	pH	Metals Alkali type Alkali strength
Chromium	D002 D007	pH Hexavalent chromium	Metals Total Chromium acid strength
Cyanide	F007 F008 F009	pH Total cyanide	Metals Cyanide amenable to chlorination
Wax/solvents Oil/solvents	F001 F002	Flash pt BTU/lb % solvent	Type of solvent(s) Halogen and sulfur Organics
Solvents	D001 F001 F003	Flash pt. BTU/lb	Type of solvent(s) % of each solvent Halogen and sulfur
Paints and Paint Wastes	D001	Flash pt. BTU/lb	Metals % solids
Sulfur and Aluminum Oxide Sludges	D003	Flash pt.	Metals % Solids
Laboratory Chemicals Commercial Chemical Products	D001, D002 D003, D004 D005, D006 D007, D008 D009, D010 D011 Items in 261.33 e and f as listed in Section B-I4	pH EP Toxicity	As needed for positive identification

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TABLE C-2

ANALYTICAL METHODS

<u>PARAMETER</u>	<u>EXTRACTION*</u>	<u>ANALYSIS*</u>
Arsenic	6010	7060 or 7061
Barium	6010	7080 or 7081
Cadmium	6010	7090 or 7091
Chromium	6010	7190 or 7191
Chromium (+6)	6010	7195, 7196, 7197, or 7198
Copper	6010	7210 or 7211
Iron	6010	7380 or 7381
Lead	6010	7420 or 7421
Manganese	6010	7460 or 7461
Mercury	6010	7470 or 7471
Nickel	6010	7520 or 7521
Selenium	6010	7740 or 7741
Silver	6010	7760 or 7761
Zinc	6010	7950 or 7951
Cyanide	N/A	9010
pH	N/A	9040
Flash Point	N/A	1010, 1020
Solvent type	Direct Injection or 5020 or 5030	8010, 8015, or 8020

*All extraction and analysis methods are as described in EPA publication SW-846, and as time to time amended.

SECTION - C - WASTE ANALYSIS PLAN

- I) All waste is initially identified as described in Section - B - Waste Descriptions and Analyses.
- II) An analysis will be conducted on a waste sample under the following conditions:
 - A) treatment plant operator suspects that the characteristics of the waste have changed.
 - B) We have been notified that the process producing the waste has changed.
 - C) The treatment plant operator does not feel that the waste material conforms to the description on the internal manifest.
 - D) Wastes contained in process tanks will be sampled when the tank is going to be emptied of its existing contents and used for a different purpose.
- III) The wastes received at P&W are expected to remain constant in composition. However, if it is suspected that the waste characteristics have changed, the waste will be analyzed for those parameters listed in table C-1 under the heading PARAMETERS, and this information will be sufficient to describe minor variations in waste composition and will verify required method of disposal. The waste may be analyzed for the parameters listed under the heading POSSIBLE ADDITIONAL PARAMETERS, the specificity of analysis being determined by the background information received on the waste, and this information will be sufficient to describe major changes in waste characteristics and will verify the required method of disposal. (Table C-2 provides the analytical methods required for analysis of these parameters.) Exhibit F thru Exhibit K are representative laboratory analyses.

SECTION - C - WASTE ANALYSIS PLAN

- I) All waste is initially identified as described in Section - B - Waste Descriptions and Analyses.
- II) An analysis will be conducted on a waste sample under the following conditions:
 - A) The treatment plant operator suspects that the characteristics of the waste have changed.
 - B) We have been notified that the process producing the waste has changed.
 - C) The treatment plant operator does not feel that the waste material conforms to the description on the internal manifest.
 - D) Wastes contained in process tanks will be sampled when the tank is going to be emptied of its existing contents and used for a different purpose.
- III) The wastes received at PWA are expected to remain constant in composition. However, if it is suspected that the waste characteristics have changed, the waste will be analyzed for those parameters listed under the heading PARAMETERS, and this information will be sufficient to describe minor variations in waste composition and will verify required method of disposal. The waste may be analyzed for the parameters listed under the heading POSSIBLE ADDITIONAL PARAMETERS, the specificity of analysis being determined by the background information received on the waste, and this information will be sufficient to describe major changes in waste characteristics and will verify the required method of disposal. Exhibit F thru Exhibit K are representative laboratory analyses.

SECTION - C - WASTE ANALYSIS PLAN

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- II) An analysis will be conducted on a waste sample under the following conditions:
 - A) The treatment plant operator suspects that the characteristics of the waste have changed.
 - B) We have been notified that the process producing the waste has changed.
 - C) The treatment plant operator does not feel that the waste material conforms to the description on the internal manifest.
 - D) Wastes contained in tanks will be sampled when the tank is going to be emptied of its existing contents and used for a different purpose.
- III) The wastes received at PWA are expected to remain constant in composition. However, if it is suspected that the waste characteristics have changed, the waste will be analyzed for those parameters listed under the heading PARAMETERS, and this information will be sufficient to describe minor variations in waste composition and will verify required method of disposal. The waste may be analyzed for the parameters listed under the heading POSSIBLE ADDITIONAL PARAMETERS, the specificity of analysis being determined by the background information received on the waste, and this information will be sufficient to describe major changes in waste characteristics and will verify the required method of disposal. Exhibit F thru Exhibit K are representative laboratory analyses.

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SECTION - D - SECURITY PROCEDURES AND EQUIPMENT

- I The unknowing entry of persons or livestock onto the active portion of the facility is prevented by the following measures:
- A) The Hazardous Waste Management facility is surrounded by a fence, and signs have been posted near all gates, and on all approaches to the facility stating the following:

NOTICE

AUTHORIZED PERSONNEL ONLY
ENTRY MAY BE DANGEROUS

- B) Exhibit FF (2 Pages) provides the location of all appropriate signs in the Hazardous Waste Management Facility along with the specific wording of these signs. The treatment facility is staffed on a 24 hour basis during weekdays. The entire East Hartford complex is staffed on a 24hr/day, 7 day/wk basis by security and fire personnel.
- C) In addition to the fence around the Hazardous Waste Management facility, the entire East Hartford Complex is surrounded by a fence, and entrance gates are staffed with security guards on a 24 hr/day, 7 day basis. Only employees wearing employee identification badges are allowed on the property. Furthermore, the plant is patrolled by security guards in cruisers, and the active portion of the facility, as well as the remote areas of the larger plant, are continuously monitored by closed circuit television at Security Headquarters.

SECTION - D - SECURITY PROCEDURES AND EQUIPMENT

- I The unknowing entry of persons or livestock onto the active portion of the facility is prevented by the following measures:
- A) The Hazardous Waste Management facility is surrounded by a fence, and signs have been posted near all gates, and on all approaches to the facility stating the following:

NOTICE

AUTHORIZED PERSONNEL ONLY
ENTRY MAY BE DANGEROUS

- B) The treatment facility is staffed on a 24 hour basis during weekdays. The entire East Hartford complex is staffed on a 24hr/day, 7 day/wk basis by security and fire personnel.
- C) In addition to the fence around the Hazardous Waste Management facility, the entire East Hartford Complex is surrounded by a fence, and entrance gates are staffed with security guards on a 24 hr/day, 7 day basis. Only employees wearing employee identification badges are allowed on the property. Furthermore, the plant is patrolled by security guards in cruisers, and the active portion of the facility, as well as the remote areas of the larger plant, are continuously monitored by closed circuit television at Security Headquarters.

SECTION - E - GENERAL INSPECTION SCHEDULE

- I) The treatment and storage areas are inspected as required to avoid any release of hazardous waste constituents to the environment and any threats to human health.
- II) Inspections are conducted and recorded as described herein and inspection records maintained for three years.
- III) PM System:
 - A) A preventive maintenance system (PM) is in use at PWA which initiates the inspection of equipment so that repairs can be made before breakdowns occur. At predetermined intervals a computer card is issued for a particular piece of equipment, and the receiver of the card performs a preventive maintenance check on the piece of equipment according to a prescribed inspection procedure. After the inspection is completed, the card is returned to the computer center and the date of completion of the inspection is entered into the computer. The inspector also records his time spent on the inspection, and in this way completion of the required inspection is assured.
 - B) RCRA required facility inspections are also initiated and recorded through the use of the PM system. Cards are issued for each area requiring inspection at the time intervals required, and the inspection takes place using developed forms as provided in this section according to the described procedures. After inspection the card is returned, the amount of time spent on the inspection recorded, and the completed inspection form submitted to the foreman.

General Inspection Schedule (cont'd)

IV) Inspection Methods:

- A) Inspections of equipment and areas are conducted in a manner acceptable for preventive maintenance.
- B) The receipt of a computer card for a particular area signifies that inspection is required, and the inspection is conducted by the CWTP operator assigned to the area requiring inspection using the inspection guides shown in this section. After inspection, the inspection guide is completed and given to the foreman, who signs the form. The foreman has the responsibility for correcting any deficiencies noted on the report, and for filing the report. The foreman indicates on the inspection report the date the deficiency was corrected, and reports these corrections in writing to his General Foreman on a monthly basis. The following will be the frequency of inspections:

<u>AREA</u>	<u>FREQUENCY</u>
Barrel Storage Areas	Weekly
Tanker Unloading Areas	Daily
CWTP Storage and Treatment Tanks	Weekly
Discharge Control Equipment	Daily
Transporter Storage Pad	Weekly
Incinerator	Daily, weekly, and while in use.

PRELIMINARY

ISSUED: JANUARY, 1982

ROUTINE JOB NO. 566

FREQUENCY: WEEKLY

TREATMENT PLANT OPERATOR

NAME _____
CLOCK# _____
DATE _____
TIME REQUIRED _____
FOREMAN _____

INSPECTION GUIDE M-566

Barrel Storage Area CWTP

SAFETY: COMPLY WITH ALL CURRENT SAFETY PRECAUTIONS.

CHECK POINTS:

ALL AREAS

DEFICIENCY REPORT

1. Barrels: Visually inspect barrels for signs of leaks, weakness or deterioration. Check floor area under barrels for signs of leaking. Remove and repack barrels where necessary. Count number of barrels and record in the inspection log.
2. Pallets Visually inspect pallets for breaks, weakness, or deterioration. Remove barrels from pallet and replace pallet where necessary.
3. Floor: Check floor for signs of cracks, faults, or other deterioration.
4. Barrel Stacking: Check barrels for unsteady stacking and reposition any unsteady barrels.
5. Sumps: Check sumps for liquid, debris, or other matter and clean sumps where necessary following procedure in Section M.
6. Report deficiencies to Foreman.

DEFICIENCIES CORRECTED

DATE

FOREMAN SIGNATURE

ISSUED: JANUARY, 1982

ROUTINE JOB NO. 566

FREQUENCY: WEEKLY

INSPECTION GUIDE M-566

TREATMENT PLANT OPERATOR

NAME _____
CLOCK# _____
DATE _____
TIME REQUIRED _____
FOREMAN _____

Barrel Storage Area CWTP

SAFETY: COMPLY WITH ALL CURRENT SAFETY PRECAUTIONS.

CHECK POINTS:

ALL AREAS

DEFICIENCY REPORT

1. Barrels: Visually inspect barrels for signs of leaks, weakness or deterioration. Check floor area under barrels for signs of leaking. Remove and repack barrels where necessary.
2. Floor: Check floor for signs of cracks, faults, or other deterioration.
3. Barrel Stacking: Check barrels for unsteady stacking and reposition any unsteady barrels.
4. Sumps: Check sumps for liquid, debris, or other matter and clean sumps where necessary.
5. Report deficiencies to Foreman.

DEFICIENCIES CORRECTED

DATE

FOREMAN SIGNATURE

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ROUTINE JOB NO. 567

FREQUENCY: DAILY

TREATMENT PLANT OPERATOR

NAME _____

CLOCK# _____

DATE _____

INSPECTION GUIDE M-567

TIME REQUIRED _____

FOREMAN _____

Tanker Unloading Areas CWTP

PAD # 1, 2, 3

SAFETY: COMPLY WITH ALL CURRENT SAFETY PRECAUTIONS.

CHECK POINTS:

ALL AREAS

DEFICIENCY REPORT

1. Floor: Check floor for signs of cracks, faults or other deterioration.
2. Piping: Check piping for leaks, cracks, sags, or other deterioration.
3. Valves: Check all valves for operation and for leaks. Sump valves must be CLOSED when pad IS in use. Sump valves must be open when truck pads are not in use.
4. Sumps: Check sumps for liquid, debris, or other matter and clean where necessary following procedures described in Section M.
5. Report deficiencies to Foreman.

DEFICIENCIES CORRECTED

DATE

FOREMAN SIGNATURE

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ROUTINE JOB NO. 567

FREQUENCY: DAILY

INSPECTION GUIDE M-567

TREATMENT PLANT OPERATOR

NAME _____
CLOCK# _____
DATE _____
TIME REQUIRED _____
FOREMAN _____

Tanker Unloading Areas CWTP

PAD # 1, 2, 3

SAFETY: COMPLY WITH ALL CURRENT SAFETY PRECAUTIONS.

CHECK POINTS:

ALL AREAS

DEFICIENCY REPORT

1. Floor: Check floor for signs of cracks, faults or other deterioration.
2. Piping: Check piping for leaks, cracks, sags, or other deterioration.
3. Valves: Check all valves for operation and for leaks. Sump valves must be CLOSED when pad IS in use. Sump valves must be open when truck pads are not in use.
4. Sumps: Check sumps for liquid, debris, or other matter and clean where necessary.
5. Report deficiencies to Foreman.

DEFICIENCIES CORRECTED

DATE

FOREMAN SIGNATURE

ISSUED: JANUARY, 1982

ROUTINE JOB NO. 569

FREQUENCY: WEEKLY

INSPECTION GUIDE M-569

TREATMENT PLANT OPERATOR

NAME _____
CLOCK# _____
DATE _____
TIME REQUIRED _____
FOREMAN _____

STORAGE AND TREATMENT TANKS CWT

SAFETY: COMPLY WITH ALL CURRENT SAFETY PRECAUTIONS.

CHECK POINTS:

ALL AREAS
DEFICIENCY REPORT

1. Tanks: Check for leaks or deterioration in tank walls, seams, and covers.
2. Containment Area: Check for the presence of cracks, faults, leaks, etc. Check for the presence of standing liquid, debris, or other matter. Clean up where necessary.
3. Pipelines: Check lines leading to and from tank for leaks, cracks, sags, or other areas of deterioration.
4. Pumps: Check tank associated pumps for leaks and operational problems. Check pump sumps for liquid, debris, or other matter, and clean up where necessary.
5. Valves: Check valves for leaks and operational problems.
6. Tank Interior: Check the interior of the tanks for cracks, faults and deterioration of the walls when tank is empty.
7. Report deficiencies to Foreman.

DEFICIENCIES CORRECTED

DATE FOREMAN SIGNATURE

ISSUED: JANUARY, 1982

ROUTINE JOB NO. 569

FREQUENCY: WEEKLY

INSPECTION GUIDE M-569

TREATMENT PLANT OPERATOR

NAME _____

CLOCK# _____

DATE _____

TIME REQUIRED _____

FOREMAN _____

Storage and Treatment Tanks CWT

SAFETY: COMPLY WITH ALL CURRENT SAFETY PRECAUTIONS.

CHECK POINTS:

ALL AREAS
DEFICIENCY REPORT

1. Tanks: Check for leaks or deterioration in tank walls, seams, and covers.
2. Containment Area: Check for the presence of cracks, faults, leaks, etc. Check for the presence of standing liquid, debris, or other matter. Clean up where necessary.
3. Pipelines: Check lines leading to and from tank for leaks, cracks, sags, or other areas of deterioration.
4. Pumps: Check tank associated pumps for leaks and operational problems. Check pump sumps for liquid, debris, or other matter, and clean up where necessary.
5. Valves: Check valves for leaks and operational problems.
6. Report deficiencies to Foreman.

DEFICIENCIES CORRECTED

DATE

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TREATMENT PLANT OPERATOR

ROUTINE JOB NO. 572

NAME _____

FREQUENCY: WEEKLY

CLOCK# _____

DATE _____

INSPECTION GUIDE M-572

TIME REQUIRED _____

FOREMAN _____

Transporter Storage Pads CWT
(Detached Pad East Side of Office Building
and attached pad South Side of Office Building)

SAFETY: COMPLY WITH ALL CURRENT SAFETY PRECAUTIONS.

CHECK POINTS:

ALL AREAS

DEFICIENCY REPORT

1. Floor: Check floor for signs of cracks, faults or other deterioration.
2. Sumps: Check sumps for liquid, debris, or other matter and clean where necessary following procedures described in Section M.
3. Report deficiencies to Foreman.

DEFICIENCIES CORRECTED

DATE

FOREMAN SIGNATURE

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ROUTINE JOB NO. 572

FREQUENCY: WEEKLY

INSPECTION GUIDE M-572

TREATMENT PLANT OPERATOR

NAME _____
CLOCK# _____
DATE _____
TIME REQUIRED _____
FOREMAN _____

Transporter Storage Pads CWTP
(Detached Pad East Side of Office Building
and attached pad South Side of Office Building)

SAFETY: COMPLY WITH ALL CURRENT SAFETY PRECAUTIONS.

CHECK POINTS:

ALL AREAS

DEFICIENCY REPORT

1. Floor: Check floor for signs of cracks, faults or other deterioration.
2. Sumps: Check sumps for liquid, debris, or other matter and clean where necessary.
3. Report deficiencies to Foreman.

DEFICIENCIES CORRECTED

DATE FOREMAN SIGNATURE

ISSUED: JUNE, 1977

ROUTINE JOB NO. 903

FREQUENCY: WEEKLY

TREATMENT PLANT OPERATOR

NAME _____
CLOCK# _____
DATE _____
TIME REQUIRED _____
FOREMAN _____

INSPECTION GUIDE M-403

PORTABLE WASTE TRANSPORT TANKS

SAFETY: COMPLY WITH ALL CURRENT SAFETY PRECAUTIONS.

CHECK POINTS:

DEFICIENCY REPORT

1. Piping, Valves: Check for leaks, loose connections, gaskets or other deficiencies. Adjust, tighten. Make minor repairs.
2. Disassemble Valves: Check for worn parts. Repair or replace as needed.
3. External Surfaces: Check for leaks, discoloration of paint, corroded and/or rusted areas. Tank should be clean and ALL identification signs clear and legible. Check all nuts and bolts to be sure they are properly secured. Replace damaged or missing nuts and bolts. Check skids for level and in good working order. Have deficiencies corrected as needed.
4. Internal Surfaces: Check internal surfaces, especially lining, for chips, cracks, hot spots (discoloration), soft areas. Have lining Spark Tested if necessary.
5. Cover: Check all surfaces for adequate protective coverage. Have deficient areas repaired as needed.
6. Float Assembly: Check for obstructions and see that it is working properly. Check cap and chain. Clean. Have deficiencies corrected.

DEFICIENCIES CORRECTED

DATE FOREMAN SIGNATURE

ISSUED: October, 1983

ROUTINE JOB NO. 623

FREQUENCY: DAILY, WEEKLY, AND WHEN IN USE

TREATMENT PLANT OPERATOR

NAME _____
CLOCK# _____
DATE _____
TIME REQUIRED _____
FOREMAN _____

INSPECTION GUIDE
Liquid Incinerator

SAFETY: COMPLY WITH ALL CURRENT SAFETY PRECAUTIONS.

CHECK POINTS:

ALL AREAS

DEFICIENCY REPORT

Daily

1. Pipelines, valves pumps

Check lines, valves
and pumps from tanks
to incinerator
nozzles for leaks,
cracks or signs of
deterioration.

2. Gas Lines

Check gas lines from
the meter to the
burners for signs of
leaks cracks or
deterioration.

3. Scrubber system

Check scrubber system
for leaks, corrosion,
pH and solution
contamination.

Daily when incinerator is running

1. Incinerator on exhaust
duct work

Check system for
fugitive emissions
and duct
deterioration.

Weekly when incinerator is running

1. Safety control systems.

Check for proper
operation of
incinerator shutdown.

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ISSUED:

ROUTINE JOB NO.

FREQUENCY: DAILY, WEEKLY, AND WHEN IN USE

TREATMENT PLANT OPERATOR

NAME _____
CLOCK# _____
DATE _____
TIME REQUIRED _____
FOREMAN _____

INSPECTION GUIDE
Liquid Incinerator

SAFETY: COMPLY WITH ALL CURRENT SAFETY PRECAUTIONS.

CHECK POINTS:

ALL AREAS

DEFICIENCY REPORT

The liquid incinerator is currently undergoing construction and start up. An inspection guide will be issued as soon as possible.

DAILY INSPECTION OF STORAGE TANKS AND ASSOCIATED AREAS

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TANK LEVEL
 (FT. OF FREEBOARD)

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STORAGE TANK	SUN	MON	TUES	WED	THUR	FRI	SAT
CN #1							
CN #2							
ALKALI							
CHROME							
BLEND							
ZYGLO							
ACID #1							
ACID #2							
WAX MELT							
KOLENE #1							
KOLENE #2							

DISCHARGE CONTROL EQUIPMENT (✓ indicates items inspected)

TRUCK PAD							
SUMP BY-PASS							

OPERATOR'S INITIALS _____ FOREMAN'S SIGNATURE _____

MARKS:

SECTION - F - GENERAL CONTINGENCY PLAN

The General Contingency Plan consists of the following parts:

Part 1 Contingency Plan

Part 2 Evacuation Plan

Part 3 Emergency Spill Procedures

Part 4 Emergency Equipment

APPENDIX A Emergency Report Form

APPENDIX B Incompatible Waste

PRELIMINARY

SECTION - F - GENERAL CONTINGENCY PLAN

Part 1 - Contingency Plan

I) Notification and Actions:

- A) In the event of fire, explosion, or any in-plant sudden or non-sudden release of hazardous waste or hazardous waste constituents to the air, soil, or surface water that could threaten human health or the environment at the East Hartford Treatment and Storage Facilities, the operator or other individual involved, in addition to taking whatever action is necessary to contain or limit the accident, will notify the following personnel:

<u>Individual</u>	<u>Ext. Home Address</u>	<u>Home Phone</u>
1. Larry Lucia	3435 85 Orcuttville Road Stafford Springs, CT 06076	684-7170
J. Hurley (2nd shift) or	2097 101 South Road Marlborough, CT 06424	295-0797
R. Keene (3rd shift) or	2097 76 Colburn Road Stafford Springs, CT 06076	684-5221

Weekends and holidays -

Duty Maintenance

Foreman

4289*

AND

- * Weekends and holidays call Guard Headquarters, Ext. 4289 and request that the Maintenance Foreman be paged.

SECTION - F - GENERAL CONTINGENCY PLAN

Part 1 - Contingency Plan

I) Notification and Actions:

- A) In the event of fire, explosion, or any in-plant sudden or non-sudden release of hazardous waste or hazardous waste constituents to the air, soil, or surface water that could threaten human health or the environment at the East Hartford Treatment and Storage Facilities, the operator or other individual involved, in addition to taking whatever action is necessary to contain or limit the accident, will notify the following personnel:

<u>Individual</u>	<u>Ext. Home Address</u>	<u>Home Phone</u>
1. C. Nelson (1st shift) or	4855 14A Colonial Drive 3435 Rocky Hill, CT 06067	563-3946
J. Hurley (2nd shift) or	2097 101 South Road Marlborough, CT 06424	295-0797
R. Keene (3rd shift) or	2097 76 Colburn Road Stafford Springs, CT 06076	684-5221

Weekends and holidays -

Duty Maintenance

Foreman 4289*

AND

- * Weekends and holidays call Guard Headquarters, Ext. 4289 and request that the Maintenance Foreman be paged.

PRELIMINARY

<u>Individual</u>	<u>Title</u>	<u>Phone Ext.</u>	<u>Home Phone</u>
J. D. Wickwire or	Plant Engineer	4487	649-8461
J. M. Gerrity or	Asst. Plant Engineer	7054	643-2372
V. T. Spano	Mechanical Supt.	2689	643-0516

<u>Individual</u>	<u>Title</u>	<u>Phone Ext.</u>	<u>Home Phone</u>
J. D. Wickwire or	Plant Engineer	4487	649-8461
J. M. Gerrity or	Asst. Plant Engineer	7054	643-2372
V. T. Spano	Mechanical Supt.	2689	643-0516

General Contingency Plan (cont'd)

- D) Upon direction of the Plant Engineer or his designee, the emergency coordinator or supervisor of the Plant Engineering Environmental Protection Group will notify the following agencies if the situation could threaten human health or the environment outside the facility:

National Response Center	Washington, D.C.	800-424-8802
Department of Environmental Protection - Connecticut	Hartford	566-3338

- 1) Upon contact with the National Response Center, the following information must be provided:

- a) Name and telephone number of reporter;
- b) Name and address of facility;
- c) Time and type of incident (e.g., release, fire);
- d) Name and quantity of material(s) involved, to the extent known;
- e) The extent of injuries, if any; and
- f) The possible hazards to human health, or the environment, outside the facility.

II Reporting of Emergency Incidents:

- A. After an emergency, within 15 days, the Plant Engineer or his designee will report to the following agencies only if the agency has been notified previously under emergency procedures:

1. The Connecticut DEP
State Office Building
Hartford, Connecticut

(The appropriate report form attached as Appendix A)

General Contingency Plan (cont'd)

2. The Regional Administration
U.S. EPA
JFK Federal Building
Boston, MA 02203

B) The EPA report must include:

1. Name, address, and telephone number of the owner or operator;
2. Name, address, and telephone number of the facility;
3. Date, time and type of incident (e.g., fire, explosion);
4. Name and quantity of material(s) involved;
5. The extent of injuries, if any;
6. An assessment of actual or potential hazards to human health or the environment, where this is applicable; and
7. Estimated quantity and disposition of recovered material that resulted from the incident.

III Arrangements With Local Authorities

- A) PWA has been a member of the community of East Hartford, Connecticut for over 50 years and throughout that time there has been a reciprocal arrangement between PWA and the Town of East Hartford to respond with Security, Fire or Medical personnel and equipment whenever either might request assistance. The Pratt and Whitney facility in East Hartford supports a full time security force of 125 employees, a full time fire department of 76 employees, and a full time medical staff of 26 employees. The security and fire department coverage is on a 24 hr/day, 7 day/week basis, and the medical staff coverage is on a 24 hr/day, 5 day/week coverage, with weekend coverage whenever the overtime population warrants. In addition PWA maintains the following emergency equipment: four fire trucks, three fire department vehicles, four security vehicles, one ambulance, and numerous specialized fire, security, and ambulance vehicles for use inside the factory.

PRELIMINARY

General Contingency Plan (cont'd)

IV. Amending of Plan

A) P&W will review, and immediately amend if required the contingency plan whenever any of the following occur:

1. The facility permit is revised.
2. The plan fails in an emergency.
3. The facility changes - in its design, construction, operation, maintenance or other circumstances - in a way that materially increases the potential for fires, explosions, or releases of hazardous waste or hazardous waste constituents, or changes the response necessary in an emergency.
4. The list of emergency coordinators changes.
5. The list of emergency equipment changes.

General Contingency Plan (cont'd)

PART 2 - EVACUATION PLAN

- I In the event of a sudden and uncontrollable occurrence such as fire, explosion, or major uncontrollable chemical spill, and if degree of risk precludes making an effort to stop or diminish the effects of the occurrence, the area of the occurrence should be evacuated immediately and in an orderly and efficient manner, utilizing any of the several exits (described below) available at the treatment areas. Currently the alarm mechanism is vocal. There are plans to install a public address system by March 1, 1985, which will vocally notify all sections of the Concentrated Waste Treatment Area of emergency instructions. Employees will assemble in front of the Maintenance Building on Willow Street IMMEDIATELY after evacuation for check in. As soon as possible after the occurrence, the following notification procedure should be followed:

Fire Headquarters	X-5097
Emergency Medical Services(if required)	X-7736
Guard Headquarters	X-4289

After the above are notified, resume the notification schedule, Notification and Action, page 34 from the beginning.

II Building Exits

A) Concentrated Waste Treatment Plant - Main Building

1) Pedestrian door exits are located as follows:

- a) South side ground level (level between basement and first floor). Exit under treatment platform to outside door on south side or into main building to outside door on east side.
- b) East side first floor exits to treatment plant yard.

General Contingency Plan (cont'd)

PART 2 - EVACUATION PLAN

- I In the event of a sudden and uncontrollable occurrence such as fire, explosion, or major uncontrollable chemical spill, and if degree of risk precludes making an effort to stop or diminish the effects of the occurrence, the area of the occurrence should be evacuated immediately and in an orderly and efficient manner, utilizing any of the several exits (described below) available at the treatment areas. Currently the alarm mechanism is vocal. There are plans to install an (intercom system) to link the various sections of the Concentrated Waste Treatment Area. Employees will assemble in front of the Maintenance Building on Willow Street IMMEDIATELY after evacuation for check in. As soon as possible after the occurrence, the following notification procedure should be followed:

Fire Headquarters	X-5097
Emergency Medical Services(if required)	X-7736
Guard Headquarters	X-4289

After the above are notified, resume the notification schedule, Notification and Action, page 34 from the beginning.

II Building Exits

A) Concentrated Waste Treatment Plant - Main Building

- 1) Pedestrian door exits are located as follows:
 - a) South side ground level (level between basement and first floor). Exit under treatment platform to outside door on south side or into main building to outside door on east side.
 - b) East side first floor exits to treatment plant yard.

General Contingency Plan (cont'd)

PART 2 - EVACUATION PLAN

- I In the event of a sudden and uncontrollable occurrence such as fire, explosion, or major uncontrollable chemical spill, and if degree of risk precludes making an effort to stop or diminish the effects of the occurrence, the area of the occurrence should be evacuated immediately and in an orderly and efficient manner, utilizing any of the several exits (described below) available at the treatment areas. Employees will assemble in front of the Maintenance Building on Willow Street IMMEDIATELY after evacuation for check in. As soon as possible after the occurrence, the following notification procedure should be followed:

Fire Headquarters	X-5097
Emergency Medical Services(if required)	X-7736
Guard Headquarters	X-4289

After the above are notified, resume the notification schedule, Notification and Action, page 34 from the beginning.

II Building Exits

A) Concentrated Waste Treatment Plant - Main Building

- 1) Pedestrian door exits are located as follows:
 - a) South side ground level (level between basement and first floor). Exit under treatment platform to outside door on south side or into main building to outside door on east side.
 - b) East side first floor exits to treatment plant yard.

General Contingency Plan (cont'd)

- c) South side platform level (level between first and second floor). Exit across treatment platform and down stairs to south side outside door or into Main Building and to outside door on east side.
- 2) Other exits are located as follows:
 - a) West side ground level - Exit folding doors to treatment plant yard.
 - b) East side first door, transporter repair area - exit overhead door to treatment plant yard.
- B) Concentrated Waste Treatment Plant - Waste Storage Building
 - 1) Pedestrian door exits are located as follows:
 - a) North side first floor exit to treatment plant yard.
 - b) West side first floor exit to treatment plant yard.
 - 2) Other exits are located as follows:
 - a) West side first floor overhead door exits to treatment plant yard.
 - b) South side of building is completely open, exit to treatment plant yard.
- C) Concentrated Waste Treatment Plant - Incinerator Building
 - 1) Pedestrian door exits are located as follows:
 - a) East side of building has two doors, open on each corner, exit to treatment plant yard.
 - b) North side has open area, exit to treatment plant yard.

General Contingency Plan (cont'd)

D) Concentrated Waste Treatment Plant - Yard Area

- 1) Fence exits are located on the East, West, and South sides of the yard, exit to maintenance building area, Willowbrook Road, and Willow Street respectively.

General Contingency Plan (cont'd)

PART 3 - EMERGENCY SPILL PROCEDURES

I The following procedures have been developed to respond to spills of hazardous waste:

A) Acids & Chromes

1. Eliminate source of spill if possible, without risk.
2. Dike spill area with soda ash (Sodium Carbonate).
3. Remove *incompatible materials.
4. Remove objects in spill area that have not yet been contacted.
5. Soak up spilled material with soda ash and remove for treatment.
6. After all soda ash has been removed, rinse spill area with water and drain to appropriate line.

* Attached Appendix B
Incompatible Waste

B) Alkalies

1. Solid Material

- a. Eliminate source of spill if possible, without risk.
- b. Pick up spilled material and remove for treatment.
- c. Rinse spill area and any contacted objects with water and drain to appropriate line.

2. Liquid Material

- a. Eliminate source of spill if possible, without risk.
- b. Dike spill area with soda ash or sand.

General Contingency Plan (cont'd)

- c. Remove incompatible materials.
- d. Remove objects which haven't been contacted.
- e. Soak up spill with sand and remove for treatment.
- f. After removing sand, rinse spill area with water and drain to appropriate line.

C) Cyanides

- 1. Eliminate source of spill if possible, without risk.
- 2. Dike spill area with soda ash (Sodium Carbonate).
- 3. Remove incompatible materials.
- 4. Remove objects in spill area that have not yet been contacted.
- 5. Soak up spilled material with soda ash and remove for treatment. If solution is too strong for in-plant treatment, place in cyanide storage tank. Be sure all contacted material is removed for treatment.

D) Wax/Solvent, Oil/Solvent, Solvents, Paints

- 1. Eliminate source of spill if possible, without risk
- 2. Remove sources of ignition.
- 3. Dike spill area with sawdust.
- 4. Remove objects in spill area that have yet been contacted.
- 5. Soak up spilled material with sawdust. Remove for incineration.

PRELIMINARY

General Contingency Plan (cont'd)

- II In the event of a sudden and non-controllable occurrence, personnel will follow any steps that are possible, without risk to themselves, which will help minimize the effect of the occurrence. Valves will be manually closed, if needed, and pumps shut-off to help minimize the problem.

PRELIMINARY

General Contingency Plan (cont'd)

PART 4 - EMERGENCY EQUIPMENT

- I Concentrated Waste Treatment Plant - Main Building
 - A) Spill Control Equipment capable of containing and cleaning up spills
 - 1) Shovels, rakes, and brooms
 - 2) Barrels, transporters and pumps
 - 3) Sawdust, soda ash, speedi-dry and oil spill control booms, absorbent material
 - B) Communication Equipment
 - 1) Telephones - two in office, and one just inside Main building East door
 - 2) PA System
 - C) Fire Extinguishing Equipment
 - 1) 2 1/2 G water, 1st floor
 - 2) 15 lb carbon dioxide, 1st floor
 - 3) 6 lb ABC, 2nd floor
 - D) Personnel Safety Equipment
 - 1) Full protective clothing, face shields, boots, aprons, gloves
 - 2) Respirators
 - 3) Scott air paks, (2) on first floor - 30 minutes duration
 - 4) Shower
 - a) Platform
 - b) Outside of office door
 - c) Basement
 - 5) Eye Wash Station
 - a) Platform
 - b) Inside East door

General Contingency Plan (cont'd)

PART 4 - EMERGENCY EQUIPMENT

I Concentrated Waste Treatment Plant - Main Building

A) Spill Control Equipment

- 1) Shovels, rakes, and brooms
- 2) Barrels, transporters and pumps
- 3) Sawdust, soda ash, speedi-dry and oil spill control booms

B) Communication Equipment

- 1) Telephones - two in office, and one just inside Main building East door

C) Fire Extinguishing Equipment

- 1) 2 1/2 G water, 1st floor
- 2) 15 lb carbon dioxide, 1st floor
- 3) 6 lb ABC, 2nd floor

D) Personnel Safety Equipment

- 1) Full protective clothing, face shields, boots, aprons, gloves
- 2) Respirators
- 3) Scott air paks, (2) on first floor
- 4) Shower
 - a) Platform
 - b) Outside of office door
 - c) Basement
- 5) Eye Wash Station
 - a) Platform
 - b) Inside East door

PRELIMINARY

General Contingency Plan (cont'd)

- c) Second floor doorway
- d) Basement
- e) Laboratory

II Concentrated Waste Treatment Plant - Storage Building

A) Spill Cont Equipment capable of containing and cleaning up spills

- 1) Shovels, rakes and brooms
- 2) Barrels
- 3) Sawdust, soda ash, and absorbent material

B) Fire Extinguishing Equipment

- 1) 30 lb ABC, outside
- 2) 6 lb ABC, inside

C) Personnel Safety Equipment

- 1) Shower - northeast corner
- 2) Eye Wash Station - northeast corner

III Concentrated Waste Treatment Plant - Incinerator Building

A) Spill Control Equipment

- 1) Sawdust

B) Fire Extinguishing Equipment

- 1) 30 lb ABC, outside
- 2) 6 lb ABC, inside

General Contingency Plan (cont'd)

- c) Second floor doorway
- d) Basement
- e) Laboratory

II Concentrated Waste Treatment Plant - Storage Building

A) Spill Control Equipment

- 1) Shovels, rakes and brooms
- 2) Barrels
- 3) Sawdust, soda ash, and speedi-dry

B) Fire Extinguishing Equipment

- 1) 30 lb ABC, outside
- 2) 6 lb ABC, inside

C) Personnel Safety Equipment

- 1) Shower - northeast corner
- 2) Eye Wash Station - northeast corner

III Concentrated Waste Treatment Plant - Incinerator Building

A) Spill Control Equipment

- 1) Speedi-dry

B) Fire Extinguishing Equipment

- 1) 30 lb ABC, outside
- 2) 6 lb ABC, inside

IV Equipment Maintenance

- A. All Fire Safety equipment is routinely inspected and maintained by the Pratt & Whitney Aircraft Fire Department according to the National Fire Protection Codes. Equipment includes fire extinguishers and Scott air packs which are immediately recharged after use. Records of Compliance with the codes are kept by the Fire Department.
- B. As a matter of practice, the other emergency equipment is always replaced after it is used. All materials that are used in emergencies are always available at nearby Plant Engineering Cribs.

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APPENDIX A

GENERAL CONTINGENCY PLAN



STATE OF CONNECTICUT
DEPARTMENT OF ENVIRONMENTAL PROTECTION

STATE OFFICE BUILDING HARTFORD, CONNECTICUT 06115



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REPORT OF PETROLEUM OR CHEMICAL PRODUCT
DISCHARGE, SPILLAGE, SEEPAGE, FILTRATION

The following information is submitted concerning petroleum or chemical product discharge reported verbally to the Department of Environmental Protection/State Police at _____ on _____ at _____

(location)

(date)

(time)

by _____
(name)

1. Time and date of discharge, spillage, etc.

2. Location, to include name of town, river, highway, distance from intersection, etc., of the pollution or contamination.

3. Type of oil, petroleum or chemical pollutant or contaminant.

4. Quantity of discharge, spillage, seepage, filtration.

5. Cause of pollution or contamination:

- a. Type of vessel, vehicle, containers, etc., which contained the pollutant or contaminant _____

- b. Describe in detail what actually occurred to cause discharge, spillage, seepage, filtration.

- 2 -

- c. If pollutant or contamination was a result of discharge, spillage, seepage, filtration from a moving vessel or vehicle, give location of departure and destination.

6. Name and address of owner of ship, boat or other vessel, terminal, establishment, vehicle, trailer or machine causing such pollution or contamination.

7. Name and address of person making this report.

8. Title, or relationship to owner, of person making report.

All statements contained herein are true to the best of my knowledge.

Signature of Person Making Report

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APPENDIX B

GENERAL CONTINGENCY PLAN

General Contingency Plan (cont'd)

INCOMPATIBLE WASTE

GROUP 1-A

ACETYLENE SLUDGE
ALKALINE CAUSTIC LIQUIDS
ALKALINE CLEANER
ALKALINE CORROSIVE LIQUIDS
ALKALINE CORROSIVE BATTERY FLUID
CAUSTIC WASTEWATER
LIME SLUDGE & CORROSIVE ALKALIES

LIME WASTEWATER
LIME AND WATER
SPENT CAUSTIC

GROUP 1-B

ACID SLUDGE
ACID AND WATER
BATTERY ACID
CHEMICAL CLEANERS
ELECTROLYTE, ACID
ETCHING ACID LIQUID OR SOLVENT
PICKLING LIQUOR AND CORROSIVE
ACIDS
SPENT ACID
SPENT MIXED ACID
SPENT SULFURIC ACID

POTENTIAL CONSEQUENCES: HEAT GENERATION; VIOLENT REACTION

GROUP 2-A

ALUMINUM
BERYLIUM
CALCIUM
LITHIUM
MAGNESIUM
POTASSIUM
SODIUM
ZINC POWDER
OTHER REACTIVE METALS & METAL HYDRIDES

GROUP 2-B

ANY WASTE IN GROUP 1-A OR 1-B

POTENTIAL CONSEQUENCES: FIRE, EXPLOSION, GENERATION OF FLAMMABLE
HYDROGEN GAS.

General Contingency Plan (cont'd)

GROUP 3-A

ALCOHOLS

WATER

GROUP 3-B

ANY CONCENTRATED WASTE IN GROUPS

1-A or 1-B

CALCIUM

LITHIUM

METAL HYDRIDES

POTASSIUM

OTHER WATER REACTIVE WASTE

POTENTIAL CONSEQUENCES: FIRE, EXPLOSION, HEAT GENERATION, GENERATION OF
FLAMMABLE OR TOXIC GASES.

GROUP 4-A

ALCOHOLS

ALDEHYDES

HALOGENATED HYDROCARBONS

NITRATED HYDROCARBONS

UNSATURATED HYDROCARBONS

OTHER REACTIVE ORGANIC COMPOUNDS
& SOLVENTS

GROUP 4-B

CONCENTRATED GROUP 1-A or 1-B
WASTE

GROUP 2-A WASTE

POTENTIAL CONSEQUENCES: FIRE, EXPLOSION, OR VIOLENT REACTION.

General Contingency Plan (cont'd)

GROUP 5-A

SPENT CYANIDE & SULFIDE SOLUTIONS

GROUP 5-B

GROUP 1-B WASTE

POTENTIAL CONSEQUENCES: GENERATION OF TOXIC HYDROGEN CYANIDE OR
HYDROGEN SULFIDE GAS

GROUP 6-A

CHLORATES
CHLORINE
CHLORITES
CHROMIC ACID
HYPOCHLORITES
NITRATES
NITRIC ACID, FUMING
PERCHLORATES
PERMANGANATES
PEROXIDES
OTHER STRONG OXIDIZERS

GROUP 6-B

ACETIC ACID & ORGANIC ACIDS
CONCENTRATED MINERAL ACIDS
GROUP 2-A WASTE
GROUP 4-A WASTE
FLAMMABLE & COMBUSTIBLE WASTE

POTENTIAL CONSEQUENCES: FIRE, EXPLOSION, OR VIOLENT REACTION.

SECTION - G - GENERAL HAZARDOUS WASTE FACILITY PROCEDURES

I Procedures Structures and Equipment

A) Prevention of Unloading Hazards - Concentrated Waste Treatment Plant Storage Building

- 1) Tankers are loaded and unloaded on concrete loading pads which are as large as a tanker and sloped to a containment pit with the capacity to contain the contents of the tanker as well as precipitation from a 25 year 24 hour storm. There are three pads in use separated into the categories of Acids, Alkali and Cyanide, and Oil. Any spills onto the pads are washed down into the containment area, which is then pumped to a treatment tank and treated accordingly. A bypass exists to direct rainwater from the pads directly to a storm sewer, and procedures call for this bypass to be closed at all times when pads are in use.
- 2) Drums, strapped to pallets, are loaded and unloaded directly from trucks into the building at a truck dock on the west side of the storage building. The building has several containment areas built under the floor, and the floors are sloped so that all spills are directed into containment. The containment pits must be pumped out manually into the treatment tanks and treated as required.
- 3) Transporters are unloaded onto specially constructed platforms on the south side of the building. When placed on the platform, the transporter slopes

General Hazardous Waste Facility Procedures (cont'd)

downward for gravity discharge into a receiving line to bulk storage tanks. Previously mentioned containment pits in this building will contain any spills from transporters. If a transporter cannot be immediately emptied, it is stored on one of the transporter storage pads until it can be emptied.

B) Runoff Prevention

- 1) All areas where hazardous waste is stored have complete containment to prevent runoff.

C) Prevention of Water Supply Contamination

- 1) All areas where hazardous waste is stored have complete containment to prevent runoff. There are no water supplies in the area.

D) Mitigation of Effects of Power Failure

- 1) In the event of a power failure, activity in the Concentrated Waste Treatment Plant area will halt until power is restored. Since all operations are manually controlled and there is no continuous flow into the storage tanks, there is no danger of overflow or incomplete treatment during a power failure.

E) Prevention of Exposure of Personnel

- 1) Personal Protective Equipment is available (see Contingency Plan - Emergency Equipment). All OSHA requirements are strictly followed.
- 2) Incinerator Building wax storage tank has exhaust system.
- 3) Employees are trained in the correct procedures to handle hazardous waste and how to limit personal exposure.

General Hazardous Waste Facility Procedures (cont'd)

II Prevention of Accidental Ignition or Reaction

- A) Flammable and No Smoking signs are posted where applicable in the designated areas on Exhibit FF
- B) Incompatible materials and their containment areas are kept separate
- C) Open flames, cutting and welding are allowed only with approval and supervision of the Fire Department.

III Traffic Patterns

- A) Traffic routes are shown on the Facility Location Map, Exhibit A. The nearest major highways (Route 2 and I-84) are indicated. Trucks traveling Route 2 will use the Willow Street Exit and enter the facility through the Willow Street gate. Trucks then proceed on Willow Brook Road to the CWTP. Trucks exiting from I-84 proceed through the Silver Lane entrance gate onto West Connector Road, to Willow Brook Road and the CWTP. The maximum weight of fully loaded trucks entering the facility is 80,000 lbs. Approximately 100 tankers and 250 trailers containing hazardous waste enter the facility per year. The in-plant load bearing capacity of the road is 14,000 pounds per square foot and the road surfacing is bituminous concrete.

General Hazardous Waste Facility Procedures (cont'd)

II Prevention of Accidental Ignition or Reaction

- A) Flammable and No Smoking signs posted where applicable
- B) Incompatible materials and their containment areas are kept separate
- C) Open flames, cutting and welding are allowed only with approval and supervision of the Fire Department.

III Traffic Patterns

- A) Traffic routes are shown on the Facility Location Map, Exhibit A. The nearest major highways (Route 2 and I-84) are indicated. The maximum weight of fully loaded trucks entering the facility is 80,000 lbs. Approximately 100 tankers and 250 trailers containing hazardous waste enter the facility per year. The load bearing capacity of the road is 14,000 pounds per square foot and the road surfacing is bituminous concrete.

SECTION - H - FACILITY LOCATION INFORMATION

- I Seismic Considerations - This facility, located in the Town of East Hartford, Hartford County, Connecticut, is an existing facility and therefore the seismic standard does not apply.

- II Floodplain location - Willow Brook runs east to west through the north end of the PWA East Hartford complex. There is a dam and pond in the vicinity of the waste treatment facilities. The 100 year flood level is 33.3 feet and is located within the pond embankments. In fact the 500 year flood level is 36.1 feet which would also be contained. The source of the flood level data is the Flood Insurance Study for the Town of East Hartford, Connecticut, dated August 1979 prepared by the U.S. Department of Housing and Urban Development, Federal Insurance Administration. Figure H-1 contains the appropriate Willow Brook Flood Profiles as reported in this study.

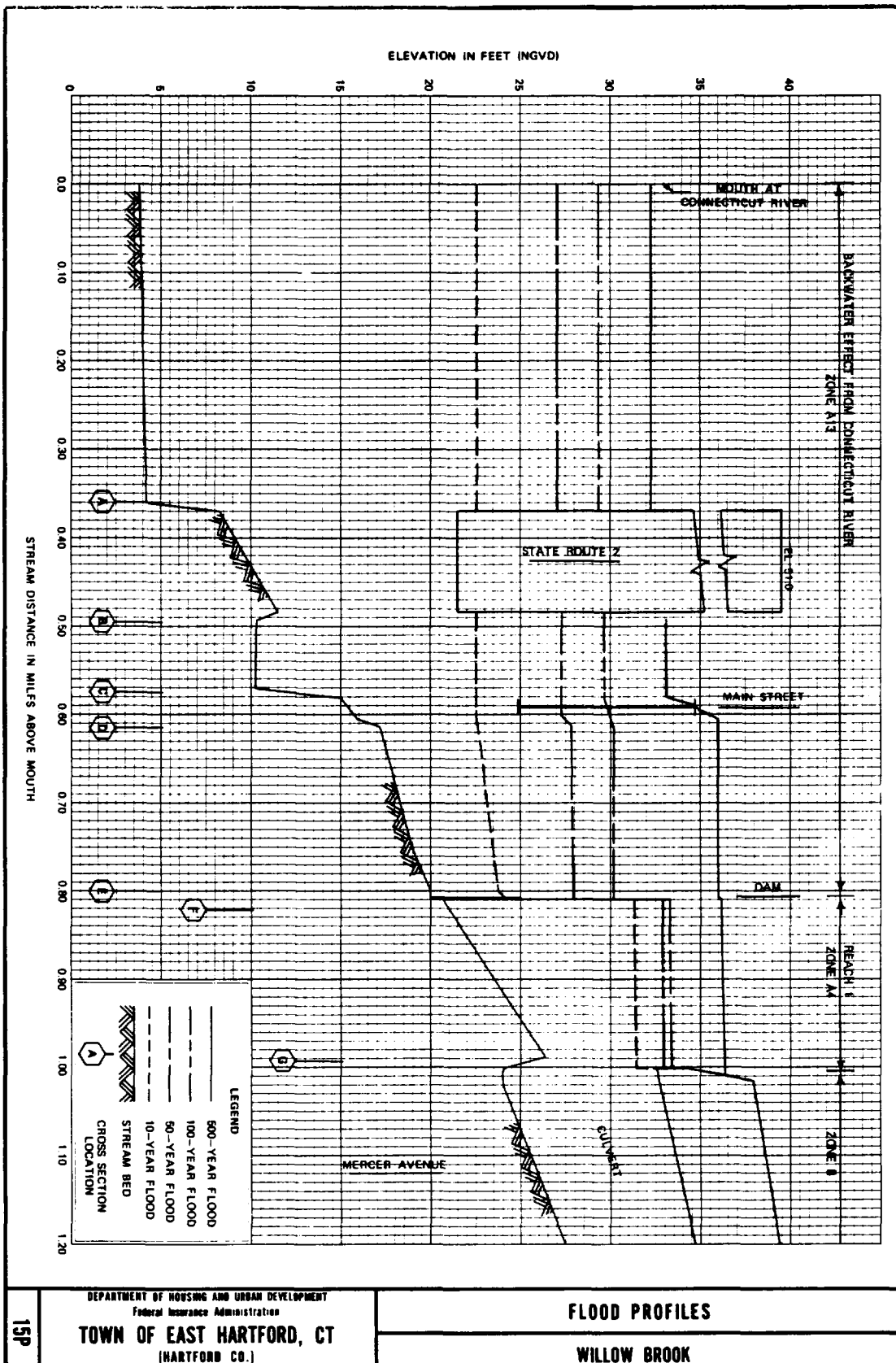


FIGURE H-1

SECTION - I - PERSONNEL TRAINING

I Introductory Training - A ten hour training course was given to all treatment plant operators, foremen, General Foremen and other associated personnel to train employees to meet government regulations in relation to their job tasks, covering specific waste treatment practices and procedures. An outline of the original training course follows:

A) Company Environmental Policy

B) Hazardous Materials

- 1) DOT requirements
- 2) Definitions
- 3) CFR Title 49 Hazardous Materials Table
- 4) Hazard Classes

C) Hazardous Wastes

- 1) EPA requirements
 - a) Manifests
 - b) Penalties
- 2) Definitions
- 3) Hazardous Waste Classes
 - a) Ignitability
 - b) Corrosivity
 - c) Reactivity
 - d) Toxicity
 - e) Hazardous Waste Lists
- 4) Incompatible Wastes and Toxic Hazards

D) Commonly Handled Wastes at Pratt & Whitney Aircraft

- 1) Hazard descriptions
- 2) Precautionary measures

Personnel Training (cont'd)

- E) Contingency Plan
 - 1) Incident reporting
 - a) Operator's responsibilities
 - b) Supervisor's responsibilities
 - 2) Safety requirements
 - 3) Evacuation Plan
 - 4) Incident response
 - a) Prevention
 - b) Spill containment and clean-up
 - 5) Hazard description
 - 6) Precautionary measures
 - F) Emergency Response
 - 1) Simulated exercises
 - a) Practical examples
 - b) Recommended solutions
 - G) Acts, Agencies, Regulations, Penalties
 - H) Summary and Review
- II Continuing Training - A yearly briefing given to all treatment plant operators, foremen, General Foremen and other associated personnel to review the original training course and add new material relating to regulations, specific wastes handled, and waste treatment practices and procedures. An outline of the yearly briefing follows:
- A) Company Environmental Policy
 - B) Contingency Plan
 - C) Emergency spill procedures

Operator Training (cont'd)

- D) Evacuation Plan
- E) Inspection Schedule
- F) Incompatible Waste and Toxic Hazards

III Employees Trained

A) General Foremen

- 1) F. Dubay
- 2) E. Seidell
- 3) J. Sanders
- 4) F. Corbo

B) Foremen

- | | |
|------------------|------------------|
| 1) W. Staveski | 9) N. Picard |
| 2) L. Pepin | 10) J. Hurley |
| 3) J. Eydenta | 11) C. Nelson |
| 4) N. Ramsdell | 12) S. Friedrich |
| 5) R. Keene | 13) J. Miller |
| 6) A. Schmedding | 14) G. Bloom |
| 7) R. O'Driscoll | 15) R. Lunn |
| 8) J. Burch | |

C) Treatment Plant Operators

- | | |
|----------------|-----------------|
| 1) J. Gregoire | 9) R. Callahan |
| 2) R. Blake | 10) A. Johnston |
| 3) J. Lusa | 11) J. O'Neill |
| 4) A. Brayton | 12) S. Timreck |
| 5) E. Rhodes | 13) E. Edwards |
| 6) C. Walton | 14) R. Churney |
| 7) B. Staley | 15) L. Lucia |
| 8) J. Bull | 16) R. Ives |
| | 17) D. Besaw |

D) Other Personnel

- 1) Charles Johnson - Lead Facilities Engineer
- 2) Patricia Walker - Industrial Waste Analyst
- 3) Thomas Evans - Maintenance Mechanic

Operator Training (cont'd)

IV Additional Personnel Training

A) Lead Facilities Engineer - Charles Johnson

- 1) Attended formal RCRA Training Seminars sponsored by Lion Technology, Inc.

B) Chemical Engineer - William Chudzik

- 1) Attended formal RCRA Training Seminars sponsored by Lion Technology Inc.
- 2) Frequently attends informational seminars held by UTC Corporate Environmental Director and Pratt & Whitney Aircraft Legal Counsel.

V Future Training Plans

- A) All personnel will continue to receive yearly training updates reviewing original material and adding any new material resulting from changes in operation or regulations.
- B) All new personnel will be given the original training program, incorporating all yearly update sessions, within the first six months of employment at the facility. Any employee new to the facility will be supervised at all times while working until completion of the training program.

Operator Training (cont'd)

IV Additional Personnel Training

A) Lead Facilities Engineer - Charles Johnson

- 1) Attended formal RCRA Training Seminars sponsored by Lion Technology, Inc.

B) Chemical Engineer - Linda Biagioni

- 1) Attended formal RCRA Training Seminars sponsored by Lion Technology Inc.
- 2) Frequently attends informational seminars held by UTC Corporate Environmental Director, Pratt & Whitney Aircraft Legal Counsel, State of Connecticut DEP, Connecticut Business and Industry Association, transportation and other special interest groups.

V Future Training Plans

- A) All personnel will continue to receive yearly training updates reviewing original material and adding any new material resulting from changes in operation or regulations.
- B) All new personnel will be given the original training program, incorporating all yearly update sessions, within the first six months of employment at the facility. Any employee new to the facility will be supervised at all times while working until completion of the training program.

Operator Training (cont'd)

VI Records

- A) Records documenting job titles and descriptions, names of employees, and completed training programs will be kept on site in a permanent file in the Maintenance Department Office. A certificate of completion of training is awarded to each employee successfully completing the initial training course and yearly course reviews, and the certificate becomes a part of the employee's personnel file. Copies of the certificate are shown as Exhibit L.

VII Job Descriptions

- A) Job descriptions for employees involved in the hazardous waste facility are included as Exhibits M thru U.

VIII Training Director

The Training Director is John Lyman who, for the last eight years, has been responsible for the technical training programs for the Pratt & Whitney Manufacturing Division. He receives his input for the training program, "Handling of Hazardous Wastes", from the Chemical Engineer, the Lead Facilities Engineer, and the General Foreman of Maintenance. The Job Descriptions for these positions are Exhibits M, O, and R respectively.

Operator Training (cont'd)

VI Records

- A) Records documenting job titles and descriptions, names of employees, and completed training programs will be kept on site in a permanent file in the Maintenance Department Office. A certificate of completion of training is awarded to each employee successfully completing the initial training course and yearly course reviews, and the certificate becomes a part of the employee's personnel file. Copies of the certificate are shown as Exhibit L.

VII Job Descriptions

- A) Job descriptions for employees involved in the hazardous waste facility are included as Exhibits M thru U.

SECTION - J - CLOSURE PLAN AND COST ESTIMATE

I Introduction

- A) The Company does not expect to close at any time in the future.
- B) In accordance with RCRA regulations all hazardous waste facilities will be closed in a manner that:
 - 1) Minimizes the need for further maintenance, and;
 - 2) Controls, minimizes or eliminates to the extent necessary, post closure release of hazardous wastes to groundwater, surface water or the atmosphere.
- C) In subsequent sections, this Closure Plan provides a description of general methods to be applied and precautions to be taken closing hazardous waste facilities. Table J-1 lists the maximum waste inventory, options for ultimate or partial closure and a schedule for ultimate closure for the Concentrated Waste Treatment Plant. A summary of specific closure methods applicable to the various systems at this facility are described in detail. Trackable closure timetables are presented in Table J-2. (Detailed breakdowns of the closure costs estimates for each portion of the treatment, storage or disposal facility are available in Tables J-3, J-4, and J-5. The total cost estimate for the entire facility is summarized in Table J-6.)

II General Closure Plan Requirements

- A) The following general information applies to all plans:
 - 1) Personal Health and Safety - The decontamination crew will consist of a minimum of two individuals who will be adequately clothed, including self-contained breathing apparatus, if

SECTION - J - CLOSURE PLAN AND COST ESTIMATE

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- C) In subsequent sections, this Closure Plan provides a description of general methods to be applied and precautions to be taken in closing hazardous waste facilities. Table J-1 lists the maximum waste inventory, options for ultimate or partial closure and a schedule for ultimate closure for the Concentrated Waste Treatment Plant. A summary of specific closure methods applicable to the various systems at this facility are described in detail, and costs associated with closing each treatment, storage or disposal facility are presented in Table J-2.

II General Closure Plan Requirements

- A) The following general information applies to all plans:
 - 1) Personal Health and Safety - The decontamination crew will consist of a minimum of two individuals who will be adequately clothed, including self-contained breathing apparatus, if required, and coveralls. Supervision of the decontamination process will include the individual(s) responsible for operation of the TSDF.

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PRELIMINARY

required, and coveralls. Supervision of the decontamination process will include the individual(s) responsible for operation of the TSDF.

- 2) Sudden or Non-Sudden Release, or Fire Hazard - The decontamination process will be considered as an activity presenting a high risk potential for release of hazardous waste or fire/explosion hazard. As such, the appropriate mechanisms of the Contingency Plan will be readily available for activation.

III Amending of Closure Plan

P&W will amend the closure plan whenever changes in operating plans or facility design affect the closure plan, or whenever there is change in the expected year of closure. If a request for permit modification is made to authorize a change in operating plans or facility design, P&W will also request modifying the closure plan at the same time. If a permit modification is not needed to authorize the change in operating plans or facility design, P&W will make a request for modification of the closure plan within 60 days after the change in plans or design occurs.

- 2) Sudden or Non-Sudden Release, or Fire Hazard - The decontamination process will be considered as an activity presenting a high risk potential for release of hazardous waste or fire/explosion hazard. As such, the appropriate mechanisms of the Contingency Plan will be readily available for activation.

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TABLE J-1

CLOSURE PLAN SUMMARY

CWTP

EAST HARTFORD, CONNECTICUT

<u>ITEM</u>	<u>PROCESS</u>	<u>PROCESS CODE</u>	<u>MAXIMUM INVENTORY*</u>	<u>CLOSURE OPTIONS PARTIAL/ULTIMATE</u>	<u>SCHEDULE FOR ULTIMATE CLOSURE START**/COMPLETE</u>		<u>METHOD (SEE SECTION REFERENCE)</u>
1	Barrel Storage	S01	55,000 Gal.	X	January	June	V
2	Transporter Storage	S01	9,000 Gal.	X	January	June	V
3	Barrel/Transporter Storage	S01	4,840 Gal.	X	January	June	V
4	Tank Storage (CWT Area)	S02	27,300 Gal.	X	January	June	III
5	Incinerator	T03	900 Gal.	X	April	Sept.	IV

* For continuous processes, one maximum volume of units is reported

** Assumed start date. Completion date based on estimated time of performance of closure

TABLE J-1
CLOSURE PLAN SUMMARY
CWTP
EAST HARTFORD, CONNECTICUT

<u>ITEM</u>	<u>PROCESS</u>	<u>PROCESS CODE</u>	<u>MAXIMUM INVENTORY*</u>	<u>CLOSURE OPTIONS</u> <u>PARTIAL/ULTIMATE</u>		<u>SCHEDULE FOR ULTIMATE CLOSURE</u> <u>START**/COMPLETE</u>		<u>METHOD</u> <u>(SEE SECTION REFERENCE)</u>
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3	Barrel/Transporter Storage	S01	4,840 Gal.		X	January	June	V
4	Tank Storage (CWT Area)	S02	27,300 Gal.	X	X	January	June	III
5	Incinerator	T03	900 Gal.		X	April	Sept.	IV

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1	Barrel Storage	S01	55,000 Gal.	X	January June	V
2	Tank Storage (CWT Area)	S02	32,000 Gal.	X X	January June	III
3	Incinerator	T03	900 Gal.	X	April Sept.	IV

* For continuous processes, one maximum volume of units is reported

** Assumed start date. Completion date based on estimated time of performance of closure

Closure Plans (cont'd)

3) Scheduling - The closure schedule provides for sequencing the closures so that hazardous residuals may be treated on-site to the maximum extent practical. Thus, the six month closure periods indicated in Table J-1 overlap and encompass a total of one year of calendar time.

4) Partial Closure - Partial closure potential for all facilities has been noted on Table J-1. The procedures described for ultimate closure would be followed for partial closure.

5) Certification - The following certification should be submitted to the EPA Region I Administrator upon completion of closure:

"I, _____, for Pratt & Whitney Aircraft Group,

(Name)

United Technologies Corporation, owner and operator of _____, a hazardous waste TSDF and I,

(Site)

_____, P. E., employed by _____,

(Name)

(Firm)

certify by means of our signatures, that the facility named above has been closed in accordance with the method specified by the Closure Plan, and attached hereto. Closure was completed on _____, after receiving the final volume of material

(Date)

on _____."

(Date)

PRATT & WHITNEY AIRCRAFT GROUP

P.E.

(Date)

Firm

PRELIMINARY

Closure Plans (cont'd)

III Storage and Treatment Tanks

A) At the closure of storage and treatment tanks, all hazardous waste and residues will be removed from tanks, discharge control equipment, and discharge confinement structures. The following steps outline such a procedure:

- 1) Step 1 - Complete the final waste treatment or waste storage process in the normal manner. Shut off the inflow to the tank, using a permanent flow control device, such as a valve and remove its handwheel. Empty tank to next sequential process, tank or effluent pipeline, as appropriate. Use tank drain connection, if necessary, draining in the normal manner. Shut off outflow.
- 2) Step 2 - Select either water rinse or appropriate solvent for hazardous wastes which are not water soluble. Using hose eductor or other appropriate device, thoroughly rinse tank interior walls with water or solvent. Use temporary cover to prevent dispersion of airborne mist from open-top tanks.
- 3) Step 3 - Use portable mixer as necessary to ensure floating debris in tank remains in suspension.
- 4) Step 4 - (Drain tank with use of a pump to barrels and dispose of as a hazardous waste by an appropriate vendor.)
- 5) Step 5 - Use similar method to decontaminate exterior of tank, as necessary. Retain flush water in containment area; drain to barrels or drain line.

Closure Plans (cont'd)

III Storage and Treatment Tanks

A) At the closure of storage and treatment tanks, all hazardous waste and residues will be removed from tanks, discharge control equipment, and discharge confinement structures. The following steps outline such a procedure:

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- 2) Step 2 - Select either water rinse or appropriate solvent for hazardous wastes which are not water soluble. Using hose eductor or other appropriate device, thoroughly rinse tank interior walls with water or solvent. Use temporary cover to prevent dispersion of airborne mist from open-top tanks.
- 3) Step 3 - Use portable mixer as necessary to ensure floating debris in tank remains in suspension.
- 4) Step 4 - Drain tank in the normal manner.
- 5) Step 5 - Use similar method to decontaminate exterior of tank, as necessary. Retain flush water in containment area; drain to barrels or drain line.

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Closure Plans (cont'd)

- 6) Step 6 - Inspect tank interior and exterior for obvious holidays in the flushing process, and/or debris dislodged. Use physical prod from outside tank to dislodge material.
- 7) Step 7 - Rinse all surfaces with clean water or clean solvent. Collect samples. Perform tests specified in the Waste Analysis Plan for a new waste. For the tank interior, collect one composite sample; for the exterior, collect one composite sample.
- 8) Step 8 - If the results of the waste analysis indicate that the rinse water or rinse solvent is a hazardous waste, dispose of rinse as (a hazardous waste by an appropriate vendor) and repeat Steps 2-7 above until rinse is non-hazardous.
- 9) Step 9 - If sequential processes are involved, the rinsing and testing process should be carried out in the sequence of plant flow. If the tanks are connected by means of pipe or channels, the rinsing and testing process should include these interconnections.

IV Incinerator

- A) At closure of incinerators, hazardous wastes and residues (including ash) must be removed from the thermal treatment process or equipment. The following steps outline such a procedure:
 - 1) Step 1 - Complete the final waste treatment process in the normal manner. Shut off and disconnect the inflow to the tank.

Closure Plans (cont'd)

- 6) Step 6 - Inspect tank interior and exterior for obvious holidays in the flushing process, and/or debris dislodged. Use physical prod from outside tank to dislodge material.
- 7) Step 7 - Rinse all surfaces with clean water or clean solvent. Collect samples. Perform tests specified in the Waste Analysis Plan for a new waste. For the tank interior, collect one composite sample; for the exterior, collect one composite sample.
- 8) Step 8 - If the results of the waste analysis indicate that the rinse water or rinse solvent is a hazardous waste, dispose of rinse in an appropriate manner, and repeat Steps 2-7 above until rinse is non-hazardous.
- 9) Step 9 - If sequential processes are involved, the rinsing and testing process should be carried out in the sequence of plant flow. If the tanks are connected by means of pipe or channels, the rinsing and testing process should include these interconnections.

IV Incinerator

- A) At closure of incinerators, hazardous wastes and residues (including ash) must be removed from the thermal treatment process or equipment. The following steps outline such a procedure:
 - 1) Step 1 - Complete the final waste treatment process in the normal manner. Shut off and disconnect the inflow to the tank.

PRELIMINARY

Closure Plans (cont'd)

- 2) Step 2 - Continue operation of the unit, using auxiliary fuel oil only, for 30 minutes, or until stack gas monitoring equipment shows concentrations of combustion products to be the same as those resulting from combustion of pure auxiliary fuel.
- 3) Step 3 - Empty all related tanks (scrubber water makeup tank, etc.) to the next sequential process, tank, or effluent pipeline as appropriate. Use tank drain connections, if necessary, draining in the normal manner. Isolate tanks.
- 4) Step 4 - Conduct tank closure operations as outlined below:
 - a) Remove any residue and ash (if present) from incinerator and test to determine if they are a hazardous waste. If hazardous, dispose of in a secure chemical landfill.
 - b) Select either rinse or appropriate solvent, for hazardous wastes which are not water soluble. Using hose eductor or other appropriate device, thoroughly rinse tank interior walls with water or solvent. Use temporary cover to prevent dispersion of airborne mist.
 - c) Use portable mixer in tank as necessary to ensure floating debris in tank remains in suspension.
 - d) Drain tank in the normal manner.

Closure Plans (cont'd)

- 2) Step 2 - Continue operation of the unit, using auxiliary fuel oil only, for 30 minutes, or until stack gas monitoring equipment shows concentrations of combustion products to be the same as those resulting from combustion of pure auxiliary fuel.
- 3) Step 3 - Empty all related tanks (scrubber water makeup tank, etc.) to the next sequential process, tank, or effluent pipeline as appropriate. Use tank drain connections, if necessary, draining in the normal manner. Isolate tanks.
- 4) Step 4 - Conduct tank closure operations as outlined below:
 - a) Select either rinse or appropriate solvent, for hazardous wastes which are not water soluble. Using hose eductor or other appropriate device, thoroughly rinse tank interior walls with water or solvent. Use temporary cover to prevent dispersion of airborne mist.
 - b) Use portable mixer in tank as necessary to ensure floating debris in tank remains in suspension.
 - c) Drain tank in the normal manner.
 - d) Use similar method to decontaminate exterior of tank, if necessary. Retain flush water in containment area; drain to barrels or drain line.

PRELIMINARY

Closure Plan (Cont'd)

- e) Use similar method to decontaminate exterior of tank, if necessary. Retain flush water in containment area; drain to barrels or drain line.
- f) Inspect tank interior and exterior for obvious holidays in the flushing process and/or debris not dislodged. Use physical prod from outside tank to dislodge material.
- g) Rinse all surfaces with clean water or clean solvent. Collect samples. Perform tests specified in the Waste Analysis Plan for a new waste.
- h) If the results of the waste analysis indicate that the rinse water or rinse solvent is a hazardous waste, dispose of rinse in an appropriate manner, and repeat Steps a-g above until rinse is non-hazardous.
- i) If sequential processes are involved, the rinsing and testing process should be carried out in the sequence of plant flow. If the tanks are connected by means of pipe or channels, the rinsing and testing process should include these interconnections.

Closure Plan (Cont'd)

- e) Inspect tank interior and exterior for obvious holidays in the flushing process and/or debris not dislodged. Use physical prod from outside tank to dislodge material.
- f) Rinse all surfaces with clean water or clean solvent. Collect samples. Perform tests specified in the Waste Analysis Plan for a new waste.
- g) If the results of the waste analysis indicate that the rinse water or rinse solvent is a hazardous waste, dispose of rinse in an appropriate manner, and repeat Steps a-f above until rinse is non-hazardous.
- h) If sequential processes are involved, the rinsing and testing process should be carried out in the sequence of plant flow. If the tanks are connected by means of pipe or channels, the rinsing and testing process should include these interconnections.

V Container Storage Areas (Items 1, 2, and 3, Table J-1)

- A) There are no additional closure requirements for the container storage areas, besides those outlined in Section I of this plan. Proper procedures for closing such facilities will incorporate the following steps:

- 1) Step 1 - Remove all stockpiled containerized wastes.

Closure Plan (Cont'd)

- e) Inspect tank interior and exterior for obvious holidays in the flushing process and/or debris not dislodged. Use physical prod from outside tank to dislodge material.
- f) Rinse all surfaces with clean water or clean solvent. Collect samples. Perform tests specified in the Waste Analysis Plan for a new waste.
- g) If the results of the waste analysis indicate that the rinse water or rinse solvent is a hazardous waste, dispose of rinse in an appropriate manner, and repeat Steps a-f above until rinse is non-hazardous.
- h) If sequential processes are involved, the rinsing and testing process should be carried out in the sequence of plant flow. If the tanks are connected by means of pipe or channels, the rinsing and testing process should include these interconnections.

V Barrel Storage Area Closure

- A) There are no additional closure requirements for barrel storage areas, besides those outlined in Section I of this plan. Proper procedures for closing such facilities will incorporate the following steps:
 - 1) Step 1 - Remove all stockpiled barrelled wastes.
 - 2) Step 2 - Water rinse barrel storage containment area. Pump wash water to barrels. Collected waste should be tested and, if hazardous, hauled to a permitted facility for disposal.

PRELIMINARY

Closure Plan (Cont'd)

V Container Storage Areas (Items 1, 2, and 3, Table J-1)

A) There are no additional closure requirements for the container storage areas, besides those outlined in Section I of this plan. Proper procedures for closing such facilities will incorporate the following steps:

- 1) Step 1 - Remove all stockpiled containerized wastes.
- 2) Step 2 - Water rinse container storage containment area. Pump wash water to containers. Collected water should be tested and, if hazardous, hauled to a permitted facility for disposal.
- 3) Step 3 - Repeat Step 2, if necessary or until wash water exhibits non-hazardous concentrations.
- 4) Step 4 - Rinse detention basin and pump wash water to containers. Collected waste should be tested and, if hazardous, hauled to a permitted facility for disposal.
- 5) Step 5 - Repeat Step 4 as necessary.

VI Cost Estimates

A) Closure costs in Fall 1980 dollars are shown in Table J-3 through J-6. Cost estimates are based on 1) in-house labor @ \$200/Man Day and 2) transport and treatment of 55 gallon drum @ \$100/ea. All other costs are based on "Means 1980 Cost Data."

B) Closure cost estimate yearly revisions can be found in Table J-7.

Closure Plan (Cont'd)

- 2) Step 2 - Water rinse container storage containment area. Pump wash water to containers. Collected waste should be tested and, if hazardous, hauled to a permitted facility for disposal.
- 3) Step 3 - Repeat Step 2, if necessary or until wash water exhibits non-hazardous concentrations.
- 4) Step 4 - Rinse detention basin and pump wash water to containers. Collected waste should be tested and, if hazardous, hauled to a permitted facility for disposal.
- 5) Step 5 - Repeat Step 4 as necessary.

VI Cost Estimates

- A) Closure costs in Fall 1980 dollars are shown on Table J-2. Cost estimates are based on 1) in-house labor @ \$200/Man Day and 2) transport and treatment of 55 gallon drum @ \$50/ea. All other costs are based on "Means 1980 Cost Data."
- B) Closure cost estimate yearly revisions can be found in Table J-3.

Closure Plan (Cont'd)

- 3) Step 3 - Repeat Step 2, if necessary or until wash water exhibits non-hazardous concentrations.
- 4) Step 4 - Rinse detention basin and pump wash water to barrels. Collected waste should be tested and, if hazardous, hauled to a permitted facility for disposal.
- 5) Step 5 - Repeat Step 4 as necessary.

VI Cost Estimates

- A) Closure costs in Fall 1980 dollars are shown on Table J-2. Cost estimates are based on 1) in-house labor @ \$200/Man Day and 2) transport and treatment of 55 gallon drum @ \$50/ea. All other costs are based on "Means 1980 Cost Data."
- B) Closure cost estimate yearly revisions can be found in Table J-3.

PRELIMINARY

Closure Plan (Cont'd)

TABLE J-2

CLOSURE TIMETABLE

		ESTIMATED TIME TO <u>COMPLETE STEPS</u>	<u>TOTAL TIME</u>
ITEM 1	CONTAINER STORAGE		
	Step 1	2 months	2 months
	Steps 2 - 3	2 months	4 months
	Steps 4 - 5 and certifica	2 months	6 months
ITEM 2	TANK STORAGE		
	Step 1	1 month	1 month
	Steps 2 - 5	2 months	3 months
	Steps 6 - 8 and certification	3 months	6 months
ITEM 3	INCINERATOR		
	Step 1	1 month	1 month
	Steps 2 - 3	1 month	2 months
	Step 4 a-e	2 months	4 months
	Step 4 f-i and certification	2 months	6 months

PRELIMINARY

Closure Plan (Cont'd)

TABLE J-3

CONTAINER STORAGE AREAS

Step 1 Removal of Containerized Wastes

A. Disposal - \$100/drum

1000 drums barrel storage area	= \$100,000.
164 drums transporter storage area	= 16,400.
88 drums barrel/transporter storage area	= 8,800.
	<u>\$135,200.</u>

B. Labor - \$200/Man-day

= 14,300
<u>Sub Total = \$139,500.</u>

Steps 2 - 3 Rinsing

A. Disposal

estimate 100 drums rinse water	= 10,000
--------------------------------	----------

B. Sampling/Analysis (100 drums @ \$100 each)	= 10,000
---	----------

C. Labor	= 2,200
----------	---------

D. Equipment	= 1,000
--------------	---------

<u>Sub Total = \$ 23,200.</u>

Steps 4 - 5 Decontamination

A. Labor	= 2,200
----------	---------

B. Testing, Analysis	= 1,000
----------------------	---------

10 samples @ \$100 each	
-------------------------	--

C. Certification	= 700
------------------	-------

<u>Sub Total = \$ 3,900.</u>

PRELIMINARY

Closure Plan (Cont'd)

TABLE J-3

CONTAINER STORAGE AREAS (cont'd)

Closure Costs = 166,600

Contingency @ 20% = 33,320

Estimated Total Cos 199,920

Round Value to \$200,000

PRELIMINARY

Closure Plan (Cont'd)

TABLE J-4

TANK STORAGE AREA

Step 1 - Disposal of Bulk Liquids

A. Disposal in bulk, assume \$1/gal	
27,300 gal x \$1/gal	= 27,300
B. Labor-draining/disposing/disconnect	= 9,000
Sub Total	= \$ 36,300.

Steps 2-5 Rinse water/Rinse Solvent Procedures

A. Disposal - assume 10% of total	
27,300/55 gal = 50 drums x \$100 each	= 5,000
B. Labor -	= 5,000
C. Equipment - pump, solvents, misc	= 1,400
Sub Total	= \$ 11,400.

Steps 6-8 Decontamination

A. Sampling/Analysis - 8 tanks	
assume 2 samples/round/tank	
assume 2 rounds required	= 3,200
@ \$100/each	
B. Disposal - assume 2 drums/tank	= 1,600
C. Labor	= 5,000
D. Certification	= 500
Sub Total	= \$ 10,300.

PRELIMINARY

Closure Plan (Cont'd)

TABLE J-4

TANK STORAGE AREA (cont'd)

Closure Cost	= 58,000
Contingency @ 20%	= 11,600
Total Closure Cost Estimate	= 69,600

ROUND VALUE TO = \$70,000

PRELIMINARY

Closure Plan (Cont'd)

TABLE J-5

INCINERATOR

Steps 1 - 3 Operations Completion

A. Disposal of liquids - 5 drums @ 100 each	= 1,000
B. Labor	= <u>3,000</u>
Sub Total = \$ 4,000	

Step 4 (a) Removal of Ash and Residue

A. Testing - 10 samples @ \$100 each	= 1,000
B. Labor	= 1,000
C. Disposal - 5 drums	= <u>500</u>
Sub Total = \$ 2,500	

Step 4 (b-f) Rinsing Procedures

A. Testing - 10 samples @ \$100 each	= 1,000
B. Labor	= 3,000
C. Disposal - 5 drums	= 500
D. Equipment - pumps, solvents, misc	= <u>2,000</u>
Sub Total = \$ 6,500	

Step 4 (g-i) Final Decontamination

A. Testing - 10 samples @ \$100 each	= 1,000
B. Labor	= 2,000
C. Certification	= <u>600</u>
Sub Total = \$ 3,600.	

PRELIMINARY

Closure Plan (Cont'd)

TABLE J-5

INCINERATOR (cont'd)

Closure Cost = \$ 16,600

Contingency @ 20% = \$ 3,320

Total Estimated Closure Cost = \$ 19,920

Round Value to \$20,000

PRELIMINARY

Closure Cost (Cont'd)

TABLE J-6

CLOSURE COST SUMMARY

400 Main Street, East Hartford, Connecticut

<u>ITEM</u>	<u>PROCESS</u>	<u>CLOSURE ACTIVITIES</u>	<u>ESTIMATE OF ULTIMATE CLOSURE COST</u>
1	Container Storage S01	Container Removal/Equipment Decontamination	\$200,000
2	Tank Storage (CWT Area)	S02 Liquid Removal/Equipment Decontamination	70,000
3	Incineration	T06 Liquid Removal/Equipment Decontamination	<u>20,000</u>
			\$290,000

NOTE: The closure cost listed above is based on Fall 1980 dollars. Annually, these costs must be updated using the Annual Implicit Price Deflator for Gross National Product as published by the U.S. Department of Commerce, in its "Survey of Current Business".

Closure Cost (Cont'd)

TABLE J-2

CLOSURE COST SUMMARY

400 Main Street, East Hartford, Connecticut

			ESTIMATE OF ULTIMATE CLOSURE COST
<u>ITEM</u>	<u>PROCESS</u>	<u>CLOSURE ACTIVITIES</u>	
1	Container Storage S01	Container Removal/Equipment Decontamination	\$200,000
2	Tank Storage S02 (CWT Area)	Liquid Removal/Equipment Decontamination	70,000
3	Incineration T06	Liquid Removal/Equipment Decontamination	<u>20,000</u>
			\$290,000

NOTE: The closure cost listed above is based on Fall 1980 dollars. Annually, these costs must be updated using the Annual Implicit Price Deflator for Gross National Product as published by the U.S. Department of Commerce, in its "Survey of Current Business".

Closure Cost (Cont'd)

TABLE J-2

CLOSURE COST SUMMARY

400 Main Street, East Hartford, Connecticut

<u>ITEM</u>	<u>PROCESS</u>		<u>CLOSURE ACTIVITIES</u>	ESTIMATE OF
				ULTIMATE CLOSURE <u>COST</u>
1	Barrel Storage	S01	Barrel Removal/Equipment Decontamination	\$200,000
2	Tank Storage (CWT Area)	S02	Liquid Removal/Equipment Decontamination	70,000
3	Incineration	T06	Liquid Removal/Equipment Decontamination	<u>20,000</u>
				\$290,000

NOTE: The closure cost listed above is based on Fall 1980 dollars. Annually, these costs must be updated using the Annual Implicit Price Deflator for Gross National Product as published by the U.S. Department of Commerce, in its "Survey of Current Business".

PRELIMINARY

Closure Plan (Cont'd)

CLOSURE PLAN COST ESTIMATE REVISIONS

VII Since the closure costs given in Table J-6 are based on Fall 1980 dollars, these costs must be updated annually, using the Annual Implicit Price Deflator for Gross National Product as published by the U.S. Department of Commerce in its "Survey of Current Business". The ratio of the Implicit Price Deflator for the current year to that of the previous year produces a factor which is multiplied by the closure cost estimate for an updated figure. The following Table will list the updated figures.

TABLE J-7

<u>YEAR</u>	<u>IMPLICIT PRICE DEFLATOR GNP</u>	<u>FACTOR</u>	<u>REVISION</u>
May 1981	177.36	-	\$290,000
May 1982	193.71/177.36	1.09	\$316,100
May 1983	207.15/195.51	1.06	\$335,066
May 1984	215.63/206.88	1.04	\$348,460

* Estimate based on data published in "Economic Indicators", 98th Congress, 1st Session, March, 1983.

Closure Plan (Cont'd)

CLOSURE PLAN COST ESTIMATE REVISIONS

VII Since the closure costs given in Table J-2 are based on Fall 1980 dollars, these costs must be updated annually, using the Annual Implicit Price Deflator for Gross National Product as published by the U.S. Department of Commerce in its "Survey of Current Business". The ratio of the Implicit Price Deflator for the current year to that of the previous year produces a factor which is multiplied by the closure cost estimate for an updated figure. The following Table will list the updated figures.

TABLE J-3

<u>YEAR</u>	<u>IMPLICIT PRICE DEFLATOR GNP</u>	<u>FACTOR</u>	<u>REVISION</u>
May 1981	177.36	-	\$290,000
May 1982	193.71/177.36	1.09	\$316,100
May 1983	207.15/195.51	1.07	\$338,227

* Estimate based on data published in "Economic Indicators", 98th Congress, 1st Session, March, 1983.

Closure Plan (Cont'd)

CLOSURE PLAN COST ESTIMATE REVISIONS

VII Since the closure costs given in Table J-2 are based on Fall 1980 dollars, these costs must be updated annually, using the Annual Implicit Price Deflator for Gross National Product as published by the U.S. Department of Commerce in its "Survey of Current Business". The ratio of the Implicit Price Deflator for the current year to that of the previous year produces a factor which is multiplied by the closure cost estimate for an updated figure. The following Table will list the updated figures.

TABLE J-3

<u>YEAR</u>	<u>IMPLICIT PRICE DEFLATOR GNP</u>	<u>FACTOR</u>	<u>REVISION</u>
1980	177.36	-	\$ 290,000
1981	193.71	1.09	\$ 316,100
1982	207.23*	1.07	\$ 338,227

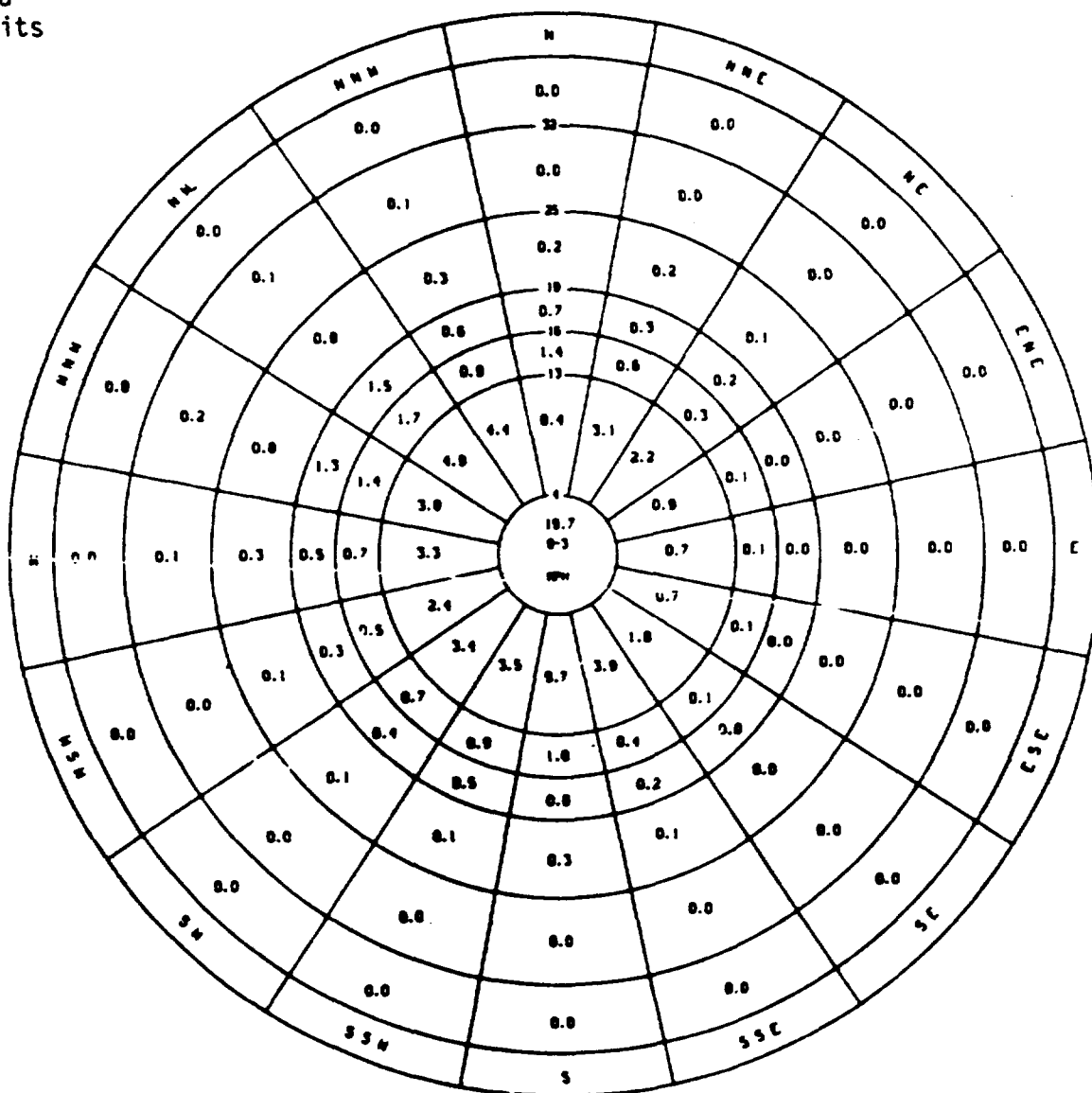
* Preliminary estimate based on data published in "Economic Indicators", 98th Congress, 1st Session, January, 1983.

SECTION - K - TOPOGRAPHIC MAP

The topographic maps - given on page 75 A and B - show a minimum of 1000 feet surrounding the CWTP. The area included on these maps is shown as an insert in "Facility Location Map" shown in Exhibit A. In addition to general topography the map on page 75A shows site piping in the CWTP area and the map on page 75B shows the general traffic pattern of trucking on site. A more detailed site plan of the CWTP area is given in Exhibit EE.

The wind rose below was obtained from the National Climatic Center, Asheville, North Carolina.

Wind speed
class limits
in MPH



Wind rose for BDL Hartford, Connecticut
(For all day & night & all ceiling-Visibility Classes)

RCRA Part B Permit Application
United Technologies
Pratt & Whitney Aircraft
CTD 990672081

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SECTION - K - TOPOGRAPHIC MAP

**US EPA New England
RCRA Document Management System
Image Target Sheet**

RDMS Document ID # 2450

Facility Name: PRATT & WHITNEY - MAIN STREET

Facility ID#: CTD990672081

Phase Classification: R-1B

Purpose of Target Sheet:

☒ **Oversized (in Site File)** ☐ **Oversized (in Map Drawer)**

☐ **Page(s) Missing (Please Specify Below)**

☐ **Privileged** ☐ **Other (Provide
Purpose Below)**

Description of Oversized Material, if applicable:

**PAGE 75: HAZARDOUS WASTE MANAGEMENT AREAS
TOPOGRAPHIC MAP, 02/15/83**

☒ **Map** ☐ **Photograph** ☐ **Other (Specify Below)**

*** Please Contact the EPA New England RCRA Records Center to View This Document ***

PRELIMINARY

SECTION - L - FINANCIAL ASSURANCE AND LIABILITY INSURANCE

The following financial documentation is contained in this section:

- I - A letter from UTC's Director of Environmental Affairs, M. J. Schneidermeyer, transmitting financial documentation to the DEP, dated October 22, 1984.
- II - A letter from UTC's chief financial officer S. B. Brown, Executive Vice President - Finance and Administration, dated October 18, 1984.
- III - Exhibit A: UTC Hazardous Waste Management Facility Closure and Post-Closure Care Costs by State, dated October 18, 1984.
- IV - A special report by Price Waterhouse, independent certified public accountant, dated October 19, 1984.
- V - A certificate of liability insurance from Liberty Mutual dated September 16, 1982.

The United Technologies 1983 Annual Report, including our independent certified public accountant's report on examination, which is referenced in the above material, is included in Appendix II of this application.

SECTION - L - FINANCIAL ASSURANCE AND LIABILITY INSURANCE

The following financial documentation is contained in this section:

- I - A letter from UTC's Director of Environmental Affairs, M. J. Schneidermeyer, transmitting financial documentation to the DEP, dated March 21, 1983.
- II - A letter from UTC's chief financial officer S. B. Brown, Executive Vice President - Finance and Administration, dated March 11, 1983.
- III - Exhibit A: UTC Hazardous Waste Management Facility Closure and Post-Closure Care Costs by State, dated March 11, 1983.
- IV - A special report by Price Waterhouse, independent certified public accountant, dated March 14, 1983.
- V - A certificate of liability insurance from Liberty Mutual dated September 16, 1982.

The United Technologies 1982 Annual Report, including our independent certified public accountant's report on examination, which is referenced in the above material, is included in Appendix II of this application.



**UNITED
TECHNOLOGIES**

PRELIMINARY

United Technologies Building
Hartford Connecticut 06101
203 728-7000

22 October 1984

CERTIFIED MAIL

Connecticut Department of
Environmental Protection
Hazardous Waste Management Section
165 Capitol Avenue
Hartford, CT 06106

Attention: Financial Documentation Enclosed

Dear Sir:

As a result of the Part B revised closure and post closure costs at the Pratt & Whitney East Hartford and Middletown facilities, enclosed please find revised evidence of United Technologies Corporation (UTC) hazardous waste management facility Financial Requirements submitted under your state hazardous waste management regulations for the following facilities:

CTD000844399, Pratt & Whitney, Colt St., East Hartford
CTD990672081, Pratt & Whitney, Main St., East Hartford
CTD000845131, Pratt & Whitney, Pent Rd., East Hartford
CTD000844324, Pratt & Whitney, Manchester
CTD003935905, Pratt & Whitney, Middletown
CTD001449511, Pratt & Whitney, North Haven
CTD000844407, Pratt & Whitney, Rocky Hill
CTD001149277, Pratt & Whitney, Aircraft Rd., Southington
CTD000844332, Pratt & Whitney, Newell St., Southington
CTD010166791, Power Systems, South Windsor
CTD001145341, Hamilton Standard, Windsor Locks
CTD089623318, Norden, Norwalk
CTD001449735, Sikorsky, Bridgeport
CTD001449784, Sikorsky, Stratford
CTD095532131, UT Research Center, East Hartford

This evidence includes:

- An 18 October 1984 letter from UTC's chief financial officer S. B. Brown.



4/20/83

United Technologies Building
Hartford, Connecticut 06101
203-728-7000

21 March 1983

CERTIFIED MAIL

Connecticut Department of
Environmental Protection
Hazardous Waste Management Section
165 Capitol Avenue
Hartford, CT 06106

Attention: Financial Documentation Enclosed

Dear Sir:

Enclosed please find evidence of United Technologies Corporation (UTC) hazardous waste management facility Financial Requirements submitted under your state hazardous waste management regulations for the following facilities:

CTD000844399, Pratt & Whitney, Colt St., East Hartford
CTD990672081, Pratt & Whitney, Main St., East Hartford
CTD000845131, Pratt & Whitney, Pent Rd., East Hartford
CTD000844324, Pratt & Whitney, Manchester
CTD003935905, Pratt & Whitney, Middletown
CTD001449511, Pratt & Whitney, North Haven
CTD000844407, Pratt & Whitney, Rocky Hill
CTD001149277, Pratt & Whitney, Aircraft Rd., Southington
CTD000844332, Pratt & Whitney, Newell St., Southington
CTD010166791, Power Systems, South Windsor
CTD001145341, Hamilton Standard, Windsor Locks
CTD089623318, Norden, Norwalk
CTD001449735, Sikorsky, Bridgeport
CTD001449784, Sikorsky, Stratford
CTD095532131, UT Research Center, East Hartford

This evidence includes:

- A letter from UTC's chief financial officer
S. B. Brown, Executive Vice President - Finance and
Administration.

PRELIMINARY

- Exhibit A: UTC Hazardous Waste Management Facility Closure and Post-Closure Care Costs by State dated 18 October 1984.
- UTC Annual Report 1983, including our independent certified public accountant's report on examination.
- A special report by Price Waterhouse, independent certified public accountant.

Please do not hesitate to contact me if additional information is needed to evidence UTC's compliance with your Financial Requirements.

Respectfully submitted,



Melvin J. Schneidermeyer
Director of Environmental Affairs

MJS/mlw
Enclosures

RCRA Part B Permit Application
United Technologies
Pratt & Whitney Aircraft
CTD 990672081

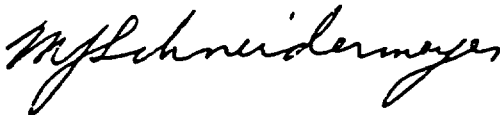
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- - 4/20/83

-2-

- Exhibit A: UTC Hazardous Waste Management Facility Closure and Post-Closure Care Costs by State.
- UTC Annual Report 1982, including our independent certified public accountant's report on examination.
- A special report by Price Waterhouse, independent certified public accountant.

Please do not hesitate to contact me if additional information is needed to evidence UTC's compliance with your Financial Requirements.

Respectfully submitted,



Melvin J. Schneidermeyer
Director of Environmental Affairs

MJS/lm

Enclosures



**UNITED
TECHNOLOGIES**

PRELIMINARY

United Technologies Building
Hartford Connecticut 06101
203 728 7000

October 18, 1984

Connecticut Department of
Environmental Protection
Hazardous Waste Management Section
165 Capitol Avenue
Hartford, CT 06106

Attention: Financial Documentation Enclosed

Dear Sir:

I am the chief financial officer of United Technologies Corporation, United Technologies Building, Hartford, CT 06101. This letter is in support of this firm's use of the financial test to demonstrate financial assurance, as specified in Subpart H of 40 CFR Parts 264 and 265.

1. This firm is the owner or operator of the following facilities which are located in the State of Connecticut for which financial assurance for closure or post-closure care is demonstrated through the financial test specified in Subpart H of 40 CFR Parts 264 and 265. The current closure and/or post-closure cost estimates covered by the test are shown for each facility:

See Exhibit A attached hereto. Facilities of the Corporation are designated "division".

2. This firm guarantees, through the corporate guarantee specified in Subpart H of 40 CFR Parts 264 and 265, the closure or post-closure care of the following facility which is in the State of Connecticut owned or operated by a subsidiary of this firm. The current cost estimate for the closure or post-closure care so guaranteed is shown for this facility:

See Exhibit A attached hereto. Facilities of subsidiaries are designated "subsidiary".

3. In States outside of Connecticut where EPA or some designated authority is administering the financial requirements of Subpart H of 40 CFR Parts 264 or 265, this firm, as owner or operator or guarantor, is demonstrating financial assurance for



**UNITED
TECHNOLOGIES**

United Technologies Building
Hartford, Connecticut 06101
203/728-7000

RCRA Part B Permit Application
United Technologies
Pratt & Whitney Aircraft
CTD 990672081

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4/20/83

March 11, 1983

Connecticut Department of
Environmental Protection
Hazardous Waste Management Section
165 Capitol Avenue
Hartford, CT 06106

Attention: Financial Documentation Enclosed

Dear Sir:

I am the chief financial officer of United Technologies Corporation, United Technologies Building, Hartford, CT 06101. This letter is in support of this firm's use of the financial test to demonstrate financial assurance, as specified in Subpart H of 40 CFR Parts 264 and 265.

1. This firm is the owner or operator of the following facilities which are located in the State of Connecticut for which financial assurance for closure or post-closure care is demonstrated through the financial test specified in Subpart H of 40 CFR Parts 264 and 265. The current closure and/or post-closure cost estimates covered by the test are shown for each facility:

See Exhibit A attached hereto. Facilities of the Corporation are designated "division".

2. This firm guarantees, through the corporate guarantee specified in Subpart H of 40 CFR Parts 264 and 265, the closure or post-closure care of the following facility which is in the State of Connecticut owned or operated by a subsidiary of this firm. The current cost estimate for the closure or post-closure care so guaranteed is shown for this facility:

See Exhibit A attached hereto. Facilities of subsidiaries are designated "subsidiary".

3. In States outside of Connecticut where EPA or some designated authority is administering the financial requirements of Subpart H of 40 CFR Parts 264 or 265, this firm, as owner or operator or guarantor, is demonstrating financial assurance for

PRELIMINARY

the closure or post-closure care of the following facilities through the use of a test equivalent or substantially equivalent to the financial test specified in Subpart H of 40 CFR Parts 264 and 265. The current closure and/or post-closure cost estimates covered by such a test are shown for each facility.

For the following states, see Exhibit A for a list of facilities in:

California
Colorado
Florida
Illinois
Indiana
Maine
Michigan
Mississippi
New Jersey
North Carolina
Ohio
Texas

4. This firm is the owner or operator of the following hazardous waste management facility for which financial assurance for closure or, if a disposal facility, post-closure care, is not demonstrated either to EPA or a State through the financial test or any other financial assurance mechanism specified in Subpart H of 40 CFR Parts 264 and 265 or equivalent or substantially equivalent State mechanisms. The current closure and/or post-closure cost estimate not covered by such financial assurance is shown for this facility: NONE.

This firm is required to file a Form 10-K with the Securities and Exchange Commission (SEC) for the latest fiscal year.

The fiscal year of this firm ends on December, 31. The figures for the following items marked with an asterisk are derived from this firm's independently audited, year-end financial statements for the latest completed fiscal year, ended December 31, 1983.

the closure or post-closure care of the following facilities through the use of a test equivalent or substantially equivalent to the financial test specified in Subpart H of 40 CFR Parts 264 and 265. The current closure and/or post-closure cost estimates covered by such a test are shown for each facility.

For the following authorized states, see Exhibit A for a list of facilities:

California
Florida (Part B Application)
Georgia (Part B Application)
Illinois
Indiana
Kentucky
Maine (Part B Application)
Mississippi
New Jersey
North Carolina
Texas

4. This firm is the owner or operator of the following hazardous waste management facility for which financial assurance for closure or, if a disposal facility, post-closure care, is not demonstrated either to EPA or a State through the financial test or any other financial assurance mechanism specified in Subpart H of 40 CFR Parts 264 and 265 or equivalent or substantially equivalent State mechanisms. The current closure and/or post-closure cost estimate not covered by such financial assurance is shown for this facility:

For the following state, see Exhibit A:

Pennsylvania

This firm is required to file a Form 10-K with the Securities and Exchange Commission (SEC) for the latest fiscal year.

The fiscal year of this firm ends on December, 31. The figures for the following items marked with an asterisk are derived from this firm's independently audited, year-end financial statements for the latest completed fiscal year, ended December 31, 1982.

PRELIMINARY

ALTERNATIVE II

- | | |
|--|-----------------|
| 1. Sum of current closure and post-closure cost estimates | \$5,614,911 |
| 2. Current bond rating of most recent issuance | Aa3 |
| Name of rating service | Moody's |
| 3. Date of issuance of bond | Nov. 15, 1982 |
| 4. Date of maturity of bond | Nov. 15, 2012 |
| *5. Tangible net worth | \$3,212,502,000 |
| *6. Total assets in U.S. | \$6,340,520,000 |
| 7. Is line 5 at least \$10 million? | Yes |
| 8. Is line 5 at least 6 times line 1? | Yes |
| *9. Are at least 90% of the firm's assets located in the U.S.? | No |
| 10. Is line 6 at least 6 times line 1? | Yes |

I hereby certify that the wording of this letter is identical to the wording specified in 40 CFR 264.151(f) (except that references to federal agencies have been changed to state equivalents) as such regulations were constituted on the date shown immediately below.



Stillman B. Brown
Executive Vice President -
Finance and Administration and
Chief Financial Officer
United Technologies Corporation
Date: October 18, 1984

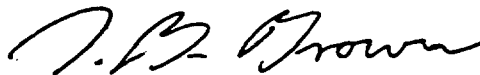
-3-

ALTERNATIVE II

1. Sum of current closure and post-closure cost estimates	\$4,533,434
2. Current bond rating of most recent issuance	Aa3
Name of rating service	Moody's
3. Date of issuance of bond	Nov. 15, 1982
4. Date of maturity of bond	Nov. 15, 2012
*5. Tangible net worth	\$2,929,147,000
*6. Total assets in U.S.	\$5,789,502,000
7. Is line 5 at least \$10 million?	Yes
8. Is line 5 at least 6 times line 1?	Yes
*9. Are at least 90% of the firm's assets located in the U.S.?	No
10. Is line 6 at least 6 times line 1?	Yes

I hereby certify that the wording of this letter is identical to the wording specified in 40 CFR 264.151(f) as such regulations were constituted on the date shown immediately below.

Very truly yours,



Stillman B. Brown
Executive Vice President -
Finance and Administration and
Chief Financial Officer
United Technologies Corporation
Date: March 11, 1983

PRELIMINARY

10 October 1984

Prepared by MJS

~~UNITED TECHNOLOGIES CORPORATION~~
HAZARDOUS WASTE MANAGEMENT FACILITY
CLOSURE AND POST-CLOSURE CARE COSTS INFLATED TO 19 MAY 1984
BY STATE

(RCRA Parts 264 and 265 Subpart H)

Key:

STATE WITH UTC FACILITY (IES)

1. U.S. EPA Identification Number
2. Facility Name
3. Address
4. Authorized State agency or U.S. EPA Region
5. Type of Facility or U.S. EPA Region
6. 19 May 1981 Closure/Post-Closure
Cost (in 1981 dollars)
7. 19 May 1982 Adjusted Closure/Post-Closure
Cost (1.09 x 1981 cost)
8. 19 May 1983 Adjusted Closure/Post-Closure
Cost (1.06 x 1982 cost)
9. 19 May 1984 Adjusted C. lsure/Post-Closure
Cost (1.04 x 1983 cost)

--- CLOSURE COSTS ---

CALIFORNIA

1. CAD044433613
2. Hamilton Standard HSS O&R Facility (Division)
3. 4401 Donald Douglas Drive
Long Beach, CA 90808
4. Department of Health Services
5. Storage
6. \$4,000
7. \$4,360
8. \$4,622
9. \$4,807

EXHIBIT A

11 March 1983
Prepared by MJS

UNITED TECHNOLOGIES CORPORATION
HAZARDOUS WASTE MANAGEMENT FACILITY
CLOSURE AND POST-CLOSURE CARE COSTS
BY STATE

(RCRA Part 265 Subpart H)

Key:

STATE WITH UTC FACILITY(IES)

1. Identification Number
2. Facility Name
3. Address
4. U.S. EPA Region or authorized state agency
5. Type of Facility
6. 19 May 1981 Closure/Post-Closure Cost (in 1981 dollars)
7. 19 May 1982 Adjusted Closure/Post-Closure Cost

--- CLOSURE COSTS ---

CALIFORNIA

1. CAD044433613
2. Hamilton Standard HSS O&R Facility (Division)
3. 4401 Donald Douglas Drive
Long Beach, CA 90808
4. Department of Health Services
5. Storage
6. \$4,000
7. \$4,360

PRELIMINARY

1. CAD001705235
2. Chemical Systems Division/Coyote Center (Division)
3. 600 Metcalf Road
San Jose, CA 95138
4. DHS
5. Storage and treatment (includes surface impoundments)
6. \$165,000
7. \$360,000 (revised to 19 May 1983 dollars)
8. \$360,000
9. \$374,400

1. CAD001868652
2. Inmont Corporation (Subsidiary)
3. 1244 North Lemmon Street
Anaheim, CA 92801
4. DHS
5. Storage
6. \$13,447
7. \$14,657
8. \$15,536
9. \$16,157

COLORADO

1. COD000716597
2. Mostek Corporation (Subsidiary)
3. 1575 Garden of the Gods Road
Colorado Springs, CO 80907
4. Region VIII
5. Storage
6. \$14,360
7. \$19,632 (revised to 19 May 1983 dollars)
8. \$38,000 (revised November 1983)
9. \$39,520

CONNECTICUT

1. CTD000844399
2. Pratt & Whitney Aircraft Group (Division)
3. Colt Street
East Hartford, CT 06108
4. Department of Environmental Protection
5. Storage and treatment (includes surface impoundments)
6. \$100,000
7. \$109,000
8. \$115,540
9. \$120,162

-2-

1. CAD001705235
2. Chemical Systems Division/Coyote Center (Division)
3. 600 Metcalf Road
San Jose, CA 95138
4. DHS
5. Storage and treatment (includes surface impoundments)
6. \$165,000
7. \$360,000 (revised to 19 May 1983 dollars)

1. CAD001868652
2. Inmont Corporation (Subsidiary)
3. 1244 North Lemon Street
Anaheim, CA 92801
4. DHS
5. Storage
6. \$13,447
7. \$14,657

COLORADO

1. COD000716597
2. Mostek Corporation (Subsidiary)
3. 1575 Garden of the Gods Road
Colorado Springs, CO 80907
4. Region VIII
5. Storage
6. \$14,360
7. \$19,632 (revised to 19 May 1983 dollars)

CONNECTICUT

1. CTD000844399
2. Pratt & Whitney Aircraft Group (Division)
3. Colt Street
East Hartford, CT 06108
4. Department of Environmental Protection
5. Storage and treatment (includes surface impoundments)
6. \$100,000
7. \$109,000

1. CTD990672081
2. Pratt & Whitney Aircraft Group (Division)
3. 400 Main Street
East Hartford, CT 06108
4. DEP
5. Storage and treatment
6. \$350,000
7. \$381,500

PRELIMINARY

1. CTD990672081
2. Pratt & Whitney Aircraft Group (Division)
3. 400 Main Street
East Hartford, CT 06108
4. DEP
5. Storage and treatment
6. \$290,000 revised
7. \$316,100 revised
8. \$335,066 revised
9. \$348,469 revised

1. CTD000845131
2. Pratt & Whitney Aircraft Group (Division)
3. Pent Road (Willgoos)
East Hartford, CT 06108
4. DEP
5. Storage
6. \$3,000
7. \$3,270
8. \$3,466
9. \$3,605

1. CTD000844324
2. Pratt & Whitney Aircraft Group (Division)
Pine Street
Manchester, CT 06040
4. DEP
5. Storage
6. \$4,500
7. \$4,905
8. \$5,199
9. \$5,407

1. CTD003935905
 2. Pratt & Whitney Aircraft Group (Division)
 3. Aircraft Road
Middletown, CT 06457
 4. DEP
 5. Storage and disposal (includes surface impoundments)
 6. \$280,000
 7. \$305,200
 8. \$323,512
 9. \$977,080 revised
- (Also, see page 10 for post-closure cost at this site)

1. CTD001449511
2. Pratt & Whitney Aircraft Group (Division)
3. 415 Washington Avenue
North Haven, CT 06473
4. DEP
5. Storage (includes surface impoundments)
6. \$480,000
7. \$523,200
8. \$554,592
9. \$576,776

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1. CTD000845131
2. Pratt & Whitney Aircraft Group (Division)
3. Pent Road (Wilgoos)
East Hartford, CT 06108
4. DEP
5. Storage
6. \$3,000
7. \$3,270

1. CTD000844324
2. Pratt & Whitney Aircraft Group (Division)
3. Elm Street
Manchester, CT 06040
4. DEP
5. Storage
6. \$4,500
7. \$4,905

1. CTD003935905
2. Pratt & Whitney Aircraft Group (Division)
3. Aircraft Road
Middletown, CT 06457
4. DEP
5. Storage and disposal (includes surface impoundments)
6. \$280,000
7. \$305,200

(Also, see page 11 for post-closure cost at this site)

1. CTD001449511
2. Pratt & Whitney Aircraft Group (Division)
3. 415 Washington Avenue
North Haven, CT 06473
4. DEP
5. Storage (includes surface impoundments)
6. \$480,000
7. \$523,200

1. CTD000844407
2. Pratt & Whitney Aircraft Group (Division)
3. Dividend Road
Rocky Hill, CT 06067
4. DEP
5. Storage
6. \$1,000
7. \$1,090

PRELIMINARY

1. CTD000844407
 2. Pratt & Whitney Aircraft Group (Division)
 3. Dividend Road
Rocky Hill, CT 06067
 4. DEP
 5. Storage
 6. \$1,000
 7. \$1,090
 8. \$1,155
 9. \$1,201
-
1. CTD001149277
 2. Pratt & Whitney Aircraft Group (Division)
 3. Aircraft Road
Southington, CT 06489
 4. DEP
 5. Storage (includes surface impoundments)
 6. \$60,000
 7. \$65,400
 8. \$69,324
 9. \$72,097
-
1. CTD000844332
 2. Pratt & Whitney Aircraft Group (Division)
 3. Newell Street (Service Center)
Southington, CT 06489
 4. DEP
 5. Storage (includes surface impoundments)
 6. \$115,000
 7. \$125,350
 8. \$132,871
 9. \$138,186
-
1. CTD010166791
 2. Power Systems Division/Fuel Cell Operations (Division)
 3. P.O. Box 109
South Windsor, CT 06074
 4. DEP
 5. Storage and treatment
 6. \$6,450
 7. \$7,031
 8. \$7,453
 9. \$7,751
-
1. CTD001145341
 2. Hamilton Standard Complex B-1, 2 and 3 (Division)
 3. Hamilton Road
Windsor Locks, CT 06096
 4. DEP
 5. Storage and treatment (includes surface impoundments with
closure in 1984)
 6. \$580,000
 7. \$632,200
 8. \$670,132
 9. \$696,937

RCRA Part B Permit Application
United Technologies
Pratt & Whitney Aircraft
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1. CTD001149277
 2. Pratt & Whitney Aircraft Group (Division)
 3. Aircraft Road
Southington, CT 06489
 4. DEP
 5. Storage (includes surface impoundments)
 6. \$60,000
 7. \$65,400
-
1. CTD000844332
 2. Pratt & Whitney Aircraft Group (Division)
 3. Newell Street (Service Center)
Southington, CT 06489
 4. DEP
 5. Storage (includes surface impoundments)
 6. \$115,000
 7. \$125,350
-
1. CTD010166791
 2. Power Systems Division/Fuel Cell Operations (Division)
 3. P. O. Box 109
South Windsor, CT 06074
 4. DEP
 5. Storage and treatment
 6. \$6,450
 7. \$7,031
-
1. CTD001145341
 2. Hamilton Standard Complex B-1, 2 and 3 (Division)
 3. Hamilton Road
Windsor Locks, CT 06096
 4. DEP
 5. Storage and treatment (includes surface impoundments)
 6. \$580,000
 7. \$632,200
-
1. CTD089623318
 2. Norden Systems (Subsidiary)
 3. Norden Place
Norwalk, CT 06856
 4. DEP
 5. Storage and treatment
 6. \$12,250
 7. \$13,353

PRELIMINARY

1. CTD089623318
2. Norden Systems (Subsidiary)
3. Norden Place
Norwalk, CT 06856
4. DEP
5. Storage and treatment
6. \$12,250
7. \$13,353
8. \$14,154
9. \$14,720

1. CTD001449735
2. Sikorsky Aircraft Bridgeport Plant (Division)
3. South Avenue
Bridgeport, CT 06604
4. DEP
5. Storage
6. \$17,000
7. \$18,530
8. \$19,642
9. \$20,428

1. CTD001449784
2. Sikorsky Aircraft (Division)
3. North Main Street
Stratford, CT 06602
4. DEP
5. Storage and treatment (includes surface impoundments)
6. \$145,000
7. \$158,050
8. \$167,533
9. \$174,234

1. CTD095532131
2. United Technologies Research Center (Division)
3. Silver Lane
East Hartford, CT 06108
4. DEP
5. Storage
6. \$10,000
7. \$10,900
8. \$11,554
9. \$12,016

FLORIDA

1. FLD001447952
2. Pratt & Whitney Aircraft (Division)
3. P.O. Box 2691
West Palm Beach, FL 33402
4. Department of Environmental Regulation
5. Storage and treatment
6. \$533,000 (revised)
7. \$580,970 (revised)
8. \$615,828 (revised)
9. \$640,461

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1. CTD001449735
2. Sikorsky Aircraft Bridgeport Plant (Division)
3. South Avenue
Bridgeport, CT 06604
4. DEP
5. Storage
6. \$17,000
7. \$18,530

1. CTD001449784
2. Sikorsky Aircraft (Division)
3. North Main Street
Stratford, CT 06602
4. DEP
5. Storage and treatment (includes surface impoundments)
6. \$145,000
7. \$158,050

1. CTD095532131
2. United Technologies Research Center (Division)
3. Silver Lane
East Hartford, CT 06108
4. DEP
5. Storage
6. \$10,000
7. \$10,900

FLORIDA

1. FLD001447952
2. Pratt & Whitney Aircraft Group (Division)
3. P. O. Box 2691
West Palm Beach, FL 33402
4. Department of Environmental Regulation
5. Storage and treatment
6. \$513,900 (revised)
7. \$560,151

GEORGIA

1. GAD980711816
2. Pratt & Whitney Aircraft Group (Division)
3. Macon Road (U.S. Route 80)
Columbus, GA 31906
4. Department of Natural Resources
5. Storage and treatment
6. --
7. \$54,900 (new facility)

PRELIMINARY

ILLINOIS

1. ILD005059340
2. Inmont Corporation (Subsidiary)
3. 3030 West 51st Street
Chicago, IL 60632
4. Illinois Environmental Protection Agency
5. Storage
6. \$19,085 (for 17 May rather than 19 May in Illinois only)
7. \$20,803
8. \$22,051
9. \$22,933

INDIANA

1. IND000816108
2. Components Division/Columbia City, Division of Essex Group, Inc. and part of UTC Automotive Group (Subsidiary)
3. P.O. Box 1500
Fort Wayne, IN 46801
4. EMB
5. Storage and treatment
6. \$66,000
7. \$71,940
8. \$76,256
9. \$79,306

1. IND061561775
2. Components Division/Jeffersonville, Division of Essex Group, Inc. and part of UTC Automotive Group (Subsidiary)
3. P.O. Box 808
Jeffersonville, IN 47130
4. EMB
5. Storage and treatment
6. \$3,000
7. \$3,270
8. \$3,466
9. \$3,605

MAINE

1. MED000791681
2. Pratt & Whitney Aircraft Group (Division)
3. P.O. Box 455
North Berwick, ME 03906
4. Department of Environmental Protection
5. Storage
6. \$60,000
7. \$40,000 (revised)
8. \$42,400
9. \$112,000 (revised)

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ILLINOIS

1. ILD005059340
2. Inmont Corporation (Subsidiary)
3. 3030 West 51st Street
Chicago, IL 60632
4. Illinois Environmental Protection Agency
5. Storage
6. \$19,085
7. \$20,803 (for 17 May 1982 in Illinois only)

INDIANA

1. IND016393555
2. BDP Company, Division of Carrier Corporation (Subsidiary)
3. 7310 West Morris Street (BDP)
Indianapolis, IN 46231
4. Environmental Management Board
5. Storage
6. \$12,500
7. \$13,625

1. IND000816108
2. Components Division/Columbia City, Division of
Essex Group, Inc. (Subsidiary)
3. P. O. Box 1500
Fort Wayne, IN 46801
4. EMB
5. Storage and treatment
6. \$66,000
7. \$71,940

1. IND061561775
2. Components Division/Jeffersonville, Division of
Essex Group, Inc. (Subsidiary)
3. P. O. Box 808
Jeffersonville, IN 47130
4. EMB
5. Storage and treatment
6. \$3,000
7. \$3,270

PRELIMINARY⁷

MICHIGAN

1. MID001868538
2. Inmont Corporation (Subsidiary)
3. 5935 Milford Avenue
Detroit, MI 48210
4. DNR
5. Storage
6. \$34,890
7. \$38,030
8. \$40,312
9. \$41,924

1. MID077883767
2. Inmont Corporation (Subsidiary)
3. 1700 Caniff
Hamtramck, MI 48212
4. DNR
5. Storage
6. \$24,595
7. \$26,809
8. \$28,418
9. \$29,555

MISSISSIPPI

1. MSD004010724
2. American Bosch Electrical Products, Divison of
Ambac Industries, Inc. (Subsidiary)
3. P.O. Box 2228
Columbus, MS 39701
4. Department of Natural Resources
5. Storage
6. \$20,000 (revised)
7. \$21,800
8. \$23,108
9. \$24,032

NEW JERSEY

1. NJD082988056
2. Inmont Corporation (Subsidiary)
3. James Street
Belvidere, NJ 07823
4. BHWB
5. Storage
6. \$21,714
7. \$23,668
8. \$25,088
9. \$26,092

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KENTUCKY

1. KYD006372254
2. Inmont Corporation (Subsidiary)
3. 2148 South 41st Street
Louisville, KY 40211
4. Natural Resources and Environmental Protection
5. Storage
6. \$6,380
7. \$6,954

MAINE

1. MED000791681
2. Pratt & Whitney Aircraft Group (Division)
3. P. O. Box 455
North Berwick, ME 03906
4. Department of Environmental Protection
5. Storage
6. \$60,000
7. \$40,000 (revised)

MICHIGAN

1. MID001868538
 2. Inmont Corporation (Subsidiary)
 3. 5935 Milford Avenue
Detroit, MI 48210
 4. Region V
 5. Storage
 6. \$34,890
 7. \$38,030
-
1. MID077883767
 2. Inmont Corporation (Subsidiary)
 3. 1700 Caniff
Hamtramck, MI 48212
 4. Region V
 5. Storage
 6. \$24,595
 7. \$26,809